

MADERA COUNTY GENERAL PLAN



FINAL ENVIRONMENTAL IMPACT REPORT

VOLUME 1

OCTOBER 1995

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VOLUME I

SCH #93102017

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**MADERA COUNTY GENERAL PLAN
FINAL ENVIRONMENTAL IMPACT REPORT**

VOLUME I

SCH # 93102017

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October 24, 1995

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INTRODUCTION

This *Environmental Impact Report* (EIR) on the Madera County *General Plan* has been prepared pursuant to the California Environmental Quality Act (CEQA). CEQA mandates the preparation of draft and final environmental impact reports for projects or programs that have the potential of resulting in adverse impacts on the environment. Detailed requirements concerning both content and process are set forth in the California Code of Regulations, Title 14, Chapter 3: *Guidelines for Implementation of the California Environmental Quality Act* (hereinafter referred to as *State CEQA Guidelines*).

This document is intended to serve as the Environmental Impact Report for revision of the Madera County General Plan and for amendments to four area plans of the Madera County General Plan required to maintain consistency with the *General Plan*.

THE PURPOSE OF THIS EIR

The purposes of CEQA (and thus EIRs) are summarized in Article 1 of the *State CEQA Guidelines*. Article 1 reads, in part, as follows:

§15002. General Concepts.

(a) Basic Purposes of CEQA. The basic purposes of CEQA are to:

- (1) Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- (2) Identify ways that environmental damage can be avoided or significantly reduced.
- (3) Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- (4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Subsection (f) of this section summarizes the purpose and content of an EIR:

(f) Environmental Impact Reports and Negative Declarations. An environmental impact report (EIR) is the public document used by the governmental agency to analyze the significant environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid the possible environmental damage.

- (1) An EIR is prepared when the public agency finds substantial evidence that the project may have a significant effect on the environment. (See §15064(a)(1).)

Subsection (g) summarizes the concept of "significant effect":

(g) Significant Effect on the Environment. A significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project. (See §15382). Further, when an EIR identifies a significant effect, the government agency approving the project must make findings on whether the adverse environmental effects have been substantially reduced or if not, why not. (See §15091.)

§15121. Informational Document

- (a) An EIR is an informational document which will inform public agency decision makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency.
- (b) While the information in the EIR does not control the agency's ultimate discretion on the project, the agency must respond to each significant effect identified in the EIR by making findings under Section 15091 and, if necessary, by making a statement of overriding considerations under Section 15093.
- (c) The information in an EIR may constitute substantial evidence in the record to support the agency's action on the project if its decision is later challenged in court.

This EIR serves two basic purposes. First, it establishes the environmental framework for adoption of the *General Plan*, providing information to the public, Planning Commission, and Board of Supervisors concerning the potential consequences of adopting the plan, and, second, it serves as a first-tier EIR for subsequent EIRs on projects implementing the *General Plan* (e.g., area plans, specific plans, individual projects).

RELATIONSHIP OF THE GENERAL PLAN AND EIR

The *State CEQA Guidelines* provides the following general directions concerning the coordination of planning and environmental impact assessment:

§15080. General.

To the extent possible, the EIR process should be combined with the existing planning, review, and project approval process used by each public agency.

The *State CEQA Guidelines* provides for combining the EIR with the general plan as follows:

§15166. EIR as Part of a General Plan.

- (a) The requirements for preparing an EIR on a local general plan, element, or amendment thereof will be satisfied by using the general plan, or element document, as the EIR and no separate EIR will be required, if:
 - (1) the general plan addresses all the points required to be in an EIR by Article 9 of these Guidelines; and
 - (2) the document contains a special section or a cover sheet identifying where the general plan document addresses each of the points required.

This *Environmental Impact Report (EIR)* documents the environmental considerations incorporated into the process of preparing the *General Plan* and evaluates the environmental implications and effects of the plan. In accordance with the two sections of the *State CEQA Guidelines* cited above, and in an effort to minimize repetition of information, three separate General Plan documents are being used to satisfy the requirements for a EIR. These are: 1) the *General Plan Policy Document*; 2) the *General Plan Background Report*, which describes existing conditions and trends in Madera County; and 3) this *Environmental Impact Report*, which

assesses the environmental implications and effects of the *General Plan*. Together, these three documents address all of the issues required by state law to be covered in a EIR.

USE OF THIS EIR AS A PROGRAM EIR/MEA

The precise format of an EIR is not dictated by CEQA or the *State CEQA Guidelines*, but is left to the discretion of the lead agency preparing the EIR. Several types of EIR or alternatives for formatting EIRs are described in the *State CEQA Guidelines*. Of particular relevance to a general plan EIR are Program EIRs and Master Environmental Assessments (MEAs).

The *State CEQA Guidelines* describes a Program EIR as follows:

§15168. Program EIR.

- (a) General. A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:
 - (1) Geographically,
 - (2) As logical parts in the chain of contemplated actions,
 - (3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
 - (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The *State CEQA Guidelines* describes a Master Environmental Assessment as follows:

§15169. Master Environmental Assessment.

- (a) General. A public agency may prepare a Master Environmental Assessment, inventory, or data base for all, or a portion of, the territory subject to its control in order to provide information which may be used or referenced in EIRs or Negative Declarations. Neither the content, the format, nor the procedures to be used to develop a Master Environmental Assessment are prescribed by these Guidelines. The descriptions contained in this section are advisory. A Master Environmental Assessment is suggested solely as an approach to identify and organize environmental information for a region or area of the state.

The chief advantage of Program EIRs and Master Environmental Assessments (MEAs) is that they can be used to streamline CEQA compliance for a broad range of subsequent projects. Program EIRs or MEAs can be used as the basis for preparing initial studies on individual projects; they can be used as the basis for issuing negative declarations on individual projects; and they can be referenced in subsequent EIRs to address major and cumulative impacts of projects, allowing project-level EIRs to focus on more site-specific impacts. Preparing a Program EIR or MEA does not obviate the need for environmental analysis on individual projects, but it can expedite and simplify subsequent environmental reviews under CEQA.

For these reasons, this EIR has been organized and is intended to be used as both a Program EIR and a Master Environmental Assessment.

FORECASTING, DEGREE OF SPECIFICITY, AND SPECULATION

The *State CEQA Guidelines* includes the following discussions regarding forecasting, speculation, and the degree of specificity required in an EIR:

§15144. Forecasting

Drafting an EIR or preparing a Negative Declaration necessarily involves some degree of forecasting. While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.

§15145. Speculation

If, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact.

§15146. Degree of Specificity

The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR.

- (a) An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy.
- (b) An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow.

This EIR estimates the amount of development under the *General Plan* that could be expected by 2010 and reaches conclusions regarding the severity of impacts based on these estimates. In some cases, especially where natural resources will be converted, the possible effects of development beyond 2010 are also discussed, but no conclusions concerning the significance of these impacts are reached, as such conclusions are deemed too speculative for the purposes of this EIR given uncertainty about long term growth trends (beyond 2010) and future technological advances. The EIR focuses particularly on the cumulative impacts of development under the *General Plan* through 2010. The EIR is necessarily less detailed than would be an EIR on a specific development project. Future development projects will be required to conduct environmental analysis and analyze site-specific impacts.

ORGANIZATION OF THIS DOCUMENT

This *Final Environmental Impact Report (FEIR)*, which as noted above is one of three reports being used to satisfy the requirements of CEQA, has been prepared as a comprehensive revision of the *Draft EIR*, which was published in July 1994. Revisions to the *Draft EIR* reflect two types of change: (1) those made in response to land use and policy changes made by the Board of Supervisors to the *Draft General Plan* as a result of public review of the *Draft Policy Document*; and (2) editorial, substantive, and technical changes made in response to comments received on the *Draft EIR*.

Because of its size, this *Final EIR* document has been published in two volumes. Volume I consists of the revised *Draft EIR* (i.e., this Introduction, Chapters 1 through 9, and appendices). Volume II consists of the comments submitted on the *Draft EIR* and the County's formal response to those comments.

Volume I is organized as follows.

Chapter 1 describes the project setting, defines the project, explains Madera County's General Plan Update process, and summarizes the significant environmental effects of the plan.

Chapter 2 summarizes and explains the development potential estimates upon which much of the rest of the assessment is based.

Chapter 3 evaluates the land use, housing, and population impacts of the plan.

Chapter 4 assesses transportation impacts.

Chapter 5 reviews impacts on public facilities and services.

Chapter 6 assesses the plan's impact on recreational and cultural resources.

Chapter 7 examines the plan's impacts on agricultural and natural resources.

Chapter 8 reviews health and safety impacts of the plan.

Chapter 9 addresses mandatory EIR sections, including alternatives, short-term versus long-term uses, significant irreversible effects, growth-inducing impacts, and cumulative impacts.

Appendices: Several technical appendices include materials too detailed or voluminous to be included in the main body of the *EIR*.

Volume II of this *Final EIR* is the County's formal response to comments submitted during the *Draft EIR* review period. It is divided into two sections. The first contains the County's response to each comment it received on the *Draft EIR*. For each letter received, there is a brief summary of each comment contained in the letter along with the County's formal response. The second section includes a photocopy of each comment letter submitted during the review period, with each individual comment marked with a unique identifier (e.g., A-2-3).

FORM OF THIS EIR'S ANALYSIS

The *General Plan* and this *EIR* were prepared simultaneously in an effort to identify early on potentially-significant implications of the plan and to build into the plan policies and programs to minimize or avoid these adverse implications. The format and content of the environmental impact analysis in this *EIR* reflects this approach to preparing the *General Plan*.

Accordingly, for each subject addressed in Chapters 3 through 8, the discussion is generally broken into the following seven parts:

Setting: This section briefly summarizes pertinent information concerning existing conditions. Since the *General Plan Background Report* constitutes the comprehensive setting for the *EIR*, this section focuses on the highlights, while referring the reader to appropriate sections of the *Background Report*.

Methodology: This section discusses the assumptions and methodology used to identify implications and to assess impacts.

Implications of the General Plan Land Use Diagram: This section projects conditions that could result from the development of the land uses shown on the *General Plan Land Use Diagram* without consideration of the policies and programs included in the *General Plan Policy Document*. This part focuses primarily on implications of estimated development at the year 2010. Most of the analyses, however, also consider potential implications beyond 2010 development levels. Because development estimates beyond 2010 are very speculative, the analysis of these implications is generally qualitative.

General Plan Policy Response: This section references specific policies and programs contained in the *General Plan Policy Document* that address the implications identified in the previous part. While this discussion focuses primarily on policies and programs that respond directly to the potential negative implications of the *Land Use Diagram*, it also in some cases identifies policies or programs that reduce impacts that may not be considered significant.

Impacts: This section describes any negative environmental impacts of the *Land Use Diagram* which would remain unresolved or potentially unresolved by the policies and programs contained in the *Policy Document*. This discussion includes an assessment of the severity of the impact, including a conclusion as to whether the impacts are considered significant according to *CEQA*. The impacts are characterized as "significant," "potentially significant," "less-than-significant," or "not significant for purposes of *CEQA*." It should be noted that this analysis and its conclusions focus on impacts based on 2010 development estimates. No conclusions are reached concerning the severity of impacts beyond 2010 development levels.

Mitigation Measures: This section identifies mitigation measures that could lessen or eliminate negative impacts identified as "significant" or "potentially significant" according to *CEQA* standards, or, in some cases, to identify additional mitigation for impacts that are considered "less-than-significant."

CHAPTER 1

PROJECT DESCRIPTION AND IMPACT SUMMARY

1.1 INTRODUCTION

The subject of this *Environmental Impact Report* is a comprehensive update of the Madera County General Plan. This chapter of the *EIR* describes the project setting, defines the project, explains Madera County's General Plan Update process, and summarizes the environmental effects of the *General Plan* found to be significant according to the standards of the *California Environmental Quality Act (CEQA)*.

1.2 PROJECT SETTING

Madera County is located in the central part of California. The San Joaquin River forms Madera County's southern and western boundaries with Fresno County. Merced and Mariposa Counties border Madera County on the north, and Mono County on the east. Madera County covers approximately 2,147 square miles of diverse geography that can best be described in terms of three broad regions: the western valley, the central foothills, and the eastern mountains.

The western valley part of the county, which is within the San Joaquin Valley, is generally flat and ranges in elevation from 45 to 1,000 feet. This part of the county contains the cities of Madera and Chowchilla, as well as the unincorporated community of Fairmead and the Madera Ranchos and Bonadelle Ranchos areas. This western area, along with the foothills, supports a substantial amount of intensive agricultural development, including over half a million acres of land enrolled in California Land Conservation Act (Williamson Act) contracts.

The eastern part of Madera County includes rural foothill and mountain communities of Coarsegold, Oakhurst, Ahwahnee, Raymond, Bass Lake, and North Fork. Grazing and other agricultural activities are prevalent in the foothills. The eastern third of the county is within the Sierra and Inyo National Forests, and the southern part of Yosemite National Park falls within Madera County.

A thorough description of the environmental setting of Madera County is contained in the *General Plan Background Report*, which is formally incorporated as part of this *EIR*. The *Background Report* provides background information on all issues addressed in the *General Plan*, focusing particularly on existing conditions and trends in Madera County. It is organized according to the following eight chapters:

1. Land Use
2. Population and Employment
3. Transportation and Circulation
4. Public Facilities and Services
5. Recreational and Cultural Resources
6. Agricultural and Natural Resources
7. Safety
8. Noise

Copies of the *Background Report* are available for review and/or purchase at the County Planning Department.

While the *Background Report* serves as the primary environmental setting description for this *EIR*, each topical analysis section in Chapters 3 through 9 in this *EIR* begins with a brief setting summary that references the pertinent section(s) of the *Background Report* containing the detailed description.

1.3 EXISTING (1969) GENERAL PLAN

As noted above, the subject of this *EIR* is a comprehensive update of the Madera County General Plan. The project updates the County's *1969 General Plan*, which was adopted in 1969 and has been subsequently supplemented with several area plans and various elements prepared as amendments to the original *1969 General Plan*. The *1969 General Plan* consists of the following countywide elements (listed in order of adoption):

- *Land Use Element, Transportation and Circulation Element, and Recreation Element* (1969)
- *Open Space and Conservation Element* (1972)
- *Safety Element* (1977)
- *Noise Element* (1978)
- Mineral Resources Section to the *Open Space and Conservation Element* (1987)
- *Housing Element* (November 1993)

In addition to amendments to the plan in the form of countywide elements, the *1969 General Plan* was supplemented by adoption of four "area plans" for different parts of the unincorporated county. These area plans are as follows:

- *North Fork Study Area Plan* (1979)
- *O'Neals Study Area Plan* (1980)
- *Oakhurst-Ahwahnee Area General Growth Management Plan* (1980)
- *Coarsegold Community Plan* (1982)

1.4 THE GENERAL PLAN PREPARATION PROCESS

Madera County initiated the comprehensive update of its General Plan in mid-1990, when the Board of Supervisors appointed citizens to the General Plan Update Advisory Committee to develop a revised General Plan. The Committee met generally on a monthly basis and developed general plan background materials and goals, policies, and implementation programs. In March 1993, the County retained a multi-disciplinary consulting team headed by J. Laurence Mintier & Associates to assist with the completion of the General Plan Update, including development of a land use diagram, circulation plan diagram, expansion and consolidation of background materials and goals, policies, and implementation programs, and preparation of this *Environmental Impact Report*.

The primary goals of the update program are as follows:

1. To update and provide internally consistent general plan goals, policies, and implementation measures.
2. To ensure consistency between the General Plan and existing and proposed area plans and functional plans.
3. To provide a comprehensive assessment of impacts associated with growth and to define appropriate mitigation measures to reduce or eliminate significant effects.

4. To provide an analysis of infrastructure and service level requirements of the General Plan.

1.5 PROJECT DESCRIPTION

The update of the Madera County General Plan entails a set of several related actions, which combined constitute "the project" for purposes of this *EIR*. Following are brief descriptions of each aspect of the project.

ADOPTION OF THE NEW GENERAL PLAN

The adoption of the new *General Plan* will be the most significant action of the update program. The following summarizes the organization and content of the *General Plan* and the objectives of the plan.

The *General Plan* consists of two documents: the *General Plan Background Report* and the *General Plan Policy Document*. The *Background Report* inventories and analyzes existing conditions and trends in Madera County. As noted earlier, it provides the formal supporting documentation for general plan policy, addressing eight subject areas.

The *General Plan Policy Document* includes the goals, policies, standards, implementation programs, land use diagram, and circulation plan diagram that constitute Madera County's formal policies for land use, development, and environmental quality. The *Policy Document* is divided into two main parts. Part I describes the *Land Use Diagram* and the designations appearing on the diagram, as well as describing the *Circulation Plan Diagram* and the standards for the roadway classification system appearing on the diagram.

Part II contains explicit statements of goals, policies, standards, and implementation programs. It is divided into the following eight sections, roughly corresponding to the organization of issues in the *General Plan Background Report*:

1. Land Use
2. Transportation and Circulation
3. Public Facilities and Services
4. Recreational and Cultural Resources
5. Agricultural and Natural Resources
6. Health and Safety
7. Noise
8. Administration and Implementation.

Each section includes several goal statements relating to different sub-issues or different aspects of the issue addressed in the section. For each goal statement there are several policies that amplify the goal statement and a set of implementation programs describing briefly the proposed action, the agencies or departments with primary responsibility for carrying out the program, the time frame for accomplishing the program, and the funding source.

As noted above, the County adopted its *Housing Element* in November 1993 in order to comply with unique statutory requirements for the preparation and adoption of housing elements. The *General Plan* is consistent with the adopted *Housing Element*, and adoption of the plan should not require any amendments to the *Housing Element*.

DISPOSITION OF EXISTING GENERAL PLAN COMPONENTS

In conjunction with adopting the new General Plan, the County will take various actions on the documents that make up the existing General Plan. These actions require either modification, or rescission. Adopted in November 1993, the *Housing Element* is a current statement of County policy and will require no change; the County will take no formal action on this element. The recently adopted *Gunner Ranch West* and *Rio Mesa Area Plans* are consistent with the new *General Plan* and will also require no change. The other four area plans are generally consistent with the new *General Plan*, but will require some changes to maintain internal consistency; these will be modified through formal amendments. The "elements" that are superseded or rendered superfluous by adoption of the new *General Plan* will be formally rescinded. Table 1-1 summarizes the County's proposed actions concerning all the elements and area plans that constitute the current countywide General Plan.

TABLE 1-1 DISPOSITION OF EXISTING GENERAL PLAN ELEMENTS AND AREA PLANS		
Element or Area Plan	Disposition	Comment
Land Use, Transportation, and Recreation Element	Rescind	Policy content absorbed in new plan.
Open Space and Conservation Element	Rescind	Policy content absorbed in new plan
Safety Element	Rescind	Policy content absorbed in new plan.
Noise Element	Rescind	Policy content absorbed in new plan
Mineral Resources Section	Rescind	Policy content absorbed in new plan
Housing Element (adopted November 1993)	No change	Element adopted in November 1993 in order to comply with statutory deadline.
Gunner Ranch West Area Plan	No change	Adopted December 13, 1994
Rio Mesa Area Plan	No change	Adopted March 21, 1995
O'Neals Study Area Plan	Modify	The boundaries of the O'Neals Area Plan will be modified to exclude areas proposed as part of area plans for Rio Mesa and Bonadelle/Madera Ranchos. Text amendments to ensure consistency with new countywide land use designations and minor policy amendments.
North Fork Study Area Plan	Modify	Text amendments to ensure consistency with new countywide land use designations and minor policy amendments.
Coarsegold Community Plan	Modify	Text amendments to ensure consistency with new countywide land use designations and minor policy amendments.
Oakhurst-Ahwahnee General Growth Management Plan	Modify	Text amendments to ensure consistency with new countywide land use designations and minor policy amendments.

ADOPTION OF IMPLEMENTING ZONING

Subsequent to adopting the new *General Plan* and taking various actions on the existing area plans, the County will revise zoning in select areas to reflect new General Plan designations. At a minimum, the following rezonings are anticipated:

- Rezoning of the new growth areas after adoption of area plans for a new growth area
- Rezoning in the western part of the county where a new, more restrictive agricultural designation has been applied
- Rezoning in the North Fork area to a new residential zoning district with a three-acre parcel minimum, consistent with *General Plan* and area plan policies.

MAJOR FEATURES OF THE PROJECT

The most important features of the General Plan Update Program (i.e., the project) are as follows:

1. Creation of a consolidated set of land use designations with prescribed permitted uses and associated density and intensity standards. Appendix B shows how the County's existing land use designations and the designations of the City of Madera and City of Chowchilla General Plans translate into the new designations, in those areas where no changes in allowable land uses are proposed.
2. Changes to the Land Use Diagram to make the County General Plan consistent with adopted city general plans for those areas outside of the cities' 1993 city limits. In the case of the City of Madera, this means the *Comprehensive General Plan & Environmental Impact Report*, which was adopted on October 5, 1992. For the City of Chowchilla, it means the plan adopted in April 1986.
3. Designation of three new growth areas on the Land Use Diagram to reflect adopted and proposed new area plans for substantial urban/suburban development. These three new growth areas are the Gunner Ranch West Area, the Rio Mesa Area, and the State Center Community College Area. Specific land uses for the State Center Community College Area will be established by separate adoption of an area plan for this designated new growth area.
4. Changes to reconcile general plan designations, zoning, and existing development/conditions. The most significant of these changes are the following:
 - a. Redesignation of the sites of the existing and proposed expansion of the Central California Women's Facility east of Fairmead from agriculture to Public Institution (PI);
 - b. Redesignation of most of the Berenda Industrial Tract east of State Route 99 to agricultural designations to reflect existing uses;
 - c. Designation of large areas in the western part of the county with the Agriculture Exclusive (AE) designation, which limits minimum lot size to 36 acres. Some of these areas have underlying zoning that allows 18-acre minimum lots;
5. Selective changes to the Land Use Diagram to reflect more appropriate development intensity than allowed by the existing County General Plan. These include redesignating remote areas not served by roads or other public facilities and services that were previously designated for rural residential uses to Exclusive Agriculture, reflecting their existing and appropriate uses.

6. Establishment of new countywide goals, policies, and implementation programs for all required elements of the general plan, with the exception of specific housing goals, policies, and programs that are included within the County's adopted *Housing Element*.
7. Minor amendments of existing areas plans to ensure consistency with these new goals, policies, and programs. These proposed amendments are included as Appendix A.
8. Development of a new countywide *Circulation Plan Diagram* and roadway standards that are consistent with the *Land Use Diagram*.

1.6 IMPACT SUMMARY

This EIR assesses the impacts of the *General Plan* by considering the impacts of development according to the *Land Use Diagram* and the policies and programs of the *Policy Document*. The EIR assesses the impacts of the *General Plan* as a whole to reach a determination concerning the level of significance of impacts for CEQA purposes. As described earlier, the *General Plan* and *EIR* were prepared simultaneously in an effort to incorporate environmental mitigations into the plan. As the two documents were prepared and analyzed, policies and programs were developed to reduce environmental problems and to mitigate potential adverse impacts.

The following table summarizes the impacts of the *General Plan*. Significant and potentially significant impacts area highlighted in **bold**.

SUMMARY OF IMPACTS				
Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
3.1 LAND USE				
Alterations in Planned Land Use The <i>Land Use Diagram</i> proposes alterations in planned land uses in two areas: 1) it proposes a more restrictive agricultural designation for land currently designated for agricultural and grazing uses; and 2) it provides for three new growth areas for major new urban/ suburban development in areas currently designated for agriculture.	All land use policies in Part II, Section 1, Land Use, of the <i>Policy Document</i> ; Agricultural Land Use/ Land Use Conflict policies (5.A); Forest Resources Policies (5.B); Mineral Resources policies (5.I); Open Space for the Preservation of Natural Resources policies (5.H)	Significant	There are no mitigation measures available to reduce this impact to a less-than-significant level	
Consistency with Adopted Plans The <i>General Plan</i> is consistent with adopted City general plans, the <i>Madera County Airport Land Use Compatibility Plan</i> , and the <i>Sierra National Forest Land and Resource Management Plan</i> , and the <i>San Joaquin River Parkway Plan</i> .	Land Use Diagram; Inter-jurisdictional Cooperation policies (1.J); San Joaquin River Parkway policies (4.A.3, 4.C.3, 5.C.8, 5.D.8, 5.E.11)	Less-than-significant		
Effects on Existing Communities The <i>General Plan</i> includes no potential disruptions to existing communities, in that it reflects historically planned land uses and adopted County area plans and city general plans.	General Land Use policies 1.A.3, 1.A.7, and program 1.1	Less-than-significant		

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
3.2 HOUSING				
Effects on Existing Supply of Housing or on Demand for New Housing The <i>Land Use Diagram</i> designates commercial and industrial land that will create a demand for housing and also provides for a substantial increase in the housing stock in the unincorporated county.	Residential Land Use policies (1.C) and program 1.4; New Growth Areas policy 1.B.2; Jobs/ Housing Balance policies (1.F) and program 1.9	Less-than-significant		
Consistency with County's Adopted Housing Element The <i>Land Use Diagram</i> is consistent with the adopted <i>Housing Element</i> in that it designates additional land for housing, and includes medium and high density zoned areas identified in the <i>Housing Element</i> as available for development.	Land Use Diagram; Residential Land Use policies (1.C)	Less-than-significant		
3.3 POPULATION				
Potential to Substantially Alter the Location, Distribution, Density, or Growth Rate of the Population Development according to the <i>General Plan</i> will alter the location and distribution and rate of growth of the population in Madera County by providing for two new growth areas in southern Madera County that will create a new concentration of population in this area.	New Growth Areas policies (1.B) and program 1.3	Significant	No additional mitigation measures are available that would mitigate this impact to a less-than-significant level.	

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
4.1 STREETS AND HIGHWAYS				
Future Service Levels Most of the county's roads would continue to operate at a high service level; however, under the <i>General Plan</i> some segments are predicted to experience a drop in service levels. Most would operate at LOS D or better, satisfying the County's service level standard. Potential areas of impact include the following three roadway segments: 1. SR 99 between Avenue 17 and the San Joaquin River would operate at LOS F without improvements; 2. SR 41 and Road 426 in the vicinity of Oakhurst would operate at LOS E or worse; and 3. SR 145 east of the city of Madera between Tozer Road and Road 400 would operate at LOS E without roadway improvements.	Roadway Design policies (2.A.1-2.A.7); Level of Service policies (2.A.8-2.A.11); Roadway Network policies (2.A.12, 2.A.13); Financing of Improvements policies (2.A.16-2.A.19); and programs 2.1-2.8	Program 2.8 requires the County to participate in the proposed study of the need for additional crossings of the San Joaquin River. Since the County cannot unilaterally guarantee that this study will result in additional capacity to relieve the impacts on SR 99 between Avenue 17 and the San Joaquin River, this is considered a Significant impact. The impacts on SR 41 and Road 426 in the vicinity of Oakhurst, and SR 145 between Tozer Road and Road 400 would just exceed the level of service standards of the <i>General Plan</i>. Because of uncertainties in forecasting such long-term travel patterns and because the service levels are close to service level D, these impacts are considered Potentially Significant.	After completion of the study of additional river crossings, the impact on SR 99 could be mitigated by modifying the General Plan to include recommended improvements, and to provide for funding such improvements in the Capital Improvement Program. Continued monitoring of traffic volumes on SR 41 and Road 426 in the vicinity of Oakhurst and SR 145 east of the city of Madera will provide greater certainty of whether improvements are needed. If monitoring indicates that traffic volumes and trends warrant such improvements, funding for these should be included in the roadway Capital Improvement Program.	Impacts on SR 99 are still considered Significant because improvements are not yet identified or guaranteed. Impacts on SR 41 and Road 426 in the vicinity of Oakhurst and SR 145 east of the city of Madera are also still considered Potentially Significant because the need and provision for improvements is unknown at this time.

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
4.2 PUBLIC TRANSPORTATION				
Effects on Existing Transit Services Most of the development that could be permitted under the <i>Land Use Diagram</i> would be of relatively low-density and would occur in areas not currently served by public transit, thus leaving existing services unaffected.	Land Use policies (1.B.2, 1.C.2, 1.E.1); Transit policies (2.B); Passenger Rail policies (2.B.8, 2.B.9, 2.B.10, 2.B.11); Transportation Control Measures policies (2.C); programs 2.10, 2.13,	Less-than-significant		
Potential Creation of Unmet Demand for Transit Services Future low-density, rural development is not expected to create a significant demand for public transit services. Development in new growth areas is expected to occur at densities and locations to foster future transit use, and the <i>General Plan</i> promotes the development of transit systems to serve these areas, although sufficient development at thresholds needed for transit use may not be reached within the time frame of the <i>General Plan</i> .	Land Use policies (1.B.2, 1.C.2, 1.E.1); Transit policies (2.B) and programs 2.11-2.15; Passenger Rail policies (2.B.8-2.B.11) and programs 2.16 and 2.17; New Growth Areas--Transportation policy (2.G.1); Air Quality --Transportation/ Circulation Policies 5.K.3, 5.K.4	Less-than-significant		

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
4.3 NON-MOTORIZED TRANSPORTATION				
Potential Creation of Unmet Demand for Non-motorized Transportation Most of the development that would be permitted under the <i>General Plan</i> would be of relatively low-density and in designated new growth areas. While low-density development in rural areas would occur in areas where non-motorized transportation could not realistically be expected to become a prominent component of the transportation network, the <i>General Plan</i> provides for opportunities for pedestrian, bicycle, and equestrian trails to meet demand. Within the new growth areas, policies of the plan encourage development patterns to provide opportunities for non-motorized transportation to meet demand and provide alternatives to automobile trips.	Land Use policies 1.B.2, 1.C.8, 1.D.3, and 1.E.1; Transportation Control Measures policies 2.C.1 and 2.C.5; Non-Motorized Transportation policies (2.D) and programs 2.19-2.21; New Growth Areas--Transportation policy 2.G.1; Schools policy 3.I.5; Recreational Trails policies 4.C.1, 4.C.2, and 4.C.3 and programs 4.2 and 4.3; Air Quality--Transportation/ Circulation policy 5.K.3; programs 2.18, 2.19, 2.20, 4.2, 4.3	Less-than-significant.		

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
4.4 AIR TRANSPORTATION				
Consistency with the Airport Land Use Compatibility Plan The <i>Land Use Diagram</i> is consistent with the density standards prescribed by the <i>Airport Land Use Compatibility Plan</i> and the <i>General Plan</i> provides for review by the ALUC of specific proposals within the vicinity of airports.	Residential Land Use policy 1.C.6; Air Transportation policies (2.F) and programs 2.23-2.25; Airport Hazards policies 6.D.1 and 6.D.2 and program 6.7	Less-than-significant		

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
5.1 WATER SUPPLY, TREATMENT, AND DELIVERY				
Availability of Water Supply A. Groundwater: Continued agricultural production combined with municipal use of groundwater in the valley will continue to result in a decline in the water table. Basinwide information on long-term water supply for agricultural and municipal use is not available. Development in the foothills and mountains will generally rely on individual wells and will be conditioned on the ability to demonstrate adequate water supply. The cumulative effects of development in the foothills and mountains on the water supply is unknown.	Domestic Water Supply policies (3.C); Agricultural Water Supply policies (3.C)	The effect of continued depletion of the groundwater table in the valley from agricultural and municipal uses over the time frame of the <i>General Plan</i> is unknown. Since adequate water supplies cannot be guaranteed, this is considered a Potentially Significant impact. The cumulative impacts on water supply in the foothills and mountains from development under the <i>General Plan</i> is unknown. Since adequate water supplies cannot be guaranteed, this is considered a Potentially Significant impact.	The only feasible mitigation measure for the potentially significant impact of development on groundwater supplies in the valley would be a valley-wide study of groundwater supply and development of a basin-wide management program. To guarantee future water supply in the foothill/mountain area to satisfy projected demand under the <i>General Plan</i>, the County would have to develop an alternate surface water supply to serve new development.	Because the County cannot unilaterally conduct a groundwater basin study or manage the groundwater resources, the impact on groundwater resources in the valley from agricultural and municipal uses would still be considered Potentially Significant. Because the County cannot guarantee the feasibility of developing an alternative surface water supply to serve development in the foothills and mountains areas, the impact on groundwater resources would still be considered Potentially Significant.

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
Availability of Water Supply (Continued) B. Surface Water: Currently, agricultural irrigation is the largest user of surface water in the county. Due to limits in contracted water rights, agricultural uses are not expected to increase the use of surface water. Only limited urban uses currently rely on surface water, although development in the Rio Mesa new growth area is planned for surface water use. Significant development would not be approved in this area without demonstration of an adequate surface water supply.	Domestic Water Supply policies (3.C.); Agricultural Water Supply policies (3.C)	Less-than-significant.		
Adequacy of Water System Capacity Policies of the plan provide that new development is conditioned upon adequate capacity or ability to provide additional capacity.	General Public Facilities and Service Policies (3.A); Programs 3.1 and 3.2; Public Facilities and Services Funding policies (3.B) and programs 3.3 and 3.4	Less-than-significant		

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
5.2 WASTEWATER TREATMENT AND DISPOSAL				
Adequacy of Wastewater System Capacity to Serve New Development The <i>General Plan</i> provides for adequate wastewater system capacity as a condition of development approval.	General Public Facilities and Services policies (3.A); Public Facilities and Services Funding policies (3.B) and programs 3.4 and 3.5; Wastewater Collection, Treatment, and Disposal policies (3.D)	Less-than-significant		
Effect on Water Quality from Wastewater Discharge <i>General Plan</i> policies and other County regulations governing wastewater disposal systems combined with state regulatory oversight will generally protect water quality from degradation of wastewater discharge. The cumulative impacts on groundwater quality from development using on-site disposal systems (septic tanks) is unknown. This is of particular concern as groundwater in this area is used as a drinking water source.	Wastewater Collection, Treatment, and Disposal policies 3.D.3 and 3.D.4	The cumulative effects of development in the foothills and mountains using on-site disposal systems over the time frame of the <i>General Plan</i> on ground-water quality is unknown and is therefore considered Potentially Significant .	Development in problem areas would be required to be connected to community wastewater systems. This is probably not widely feasible.	Less-than-significant

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
5.3 DRAINAGE AND FLOOD CONTROL				
Adequacy of Drainage and Flood Control Capacity The <i>General Plan</i> provides for adequate drainage system and flood control capacity as a condition or development approval.	General Public Facilities and Service policies (3.A) and program 3.1 and 3.2; Public Facilities and Services Funding policies (3.G) and program 3.3 and 3.4; Storm Drainage and Flood Control policies (3.E) and program 3.5	Less-than-significant		

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
5.4 SOLID WASTE MANAGEMENT				
Ability of Solid Waste Collection and Disposal Facilities Solid waste generated by development under the <i>General Plan</i> can be accommodated within the current landfill capacity and the <i>General Plan</i> provides for expansions of solid waste collection and disposal facilities.	General Public Facilities and Services policies (3.A) and programs 3.1 and 3.2; Public Facilities and Services Funding policies (3.B) and programs 3.3 and 3.4; Landfills, Transfer Stations, and Solid Waste Recycling policies (3.F) and programs 3.7, 3.8, and 3.9	Less-than-significant		
5.5 LAW ENFORCEMENT				
Demand for Law Enforcement Services The <i>General Plan</i> calls for policies for the provision of adequate law enforcement facilities and services in conjunction with new development	General Public Facilities and Services policies (3.A.1, 3.A.2, 3.A.4, 3.A.5) and programs 3.1 and 3.2; Public Facilities and Services Funding policies 3.B.1 and 3.B.2 and programs 3.3 and 3.4; Law Enforcement Services policies (3.G)	Less-than-significant		

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
5.6 FIRE PROTECTION				
Demand for Fire Protection Services Policies of the <i>General Plan</i> call for the provision of adequate fire protection facilities and services in conjunction with new development.	General Public Facilities and Services policies (3.A.1, 3.A.2, 3.A.4, 3.A.5) and programs 3.1 and 3.2; Public Facilities and Services Funding policies 3.B.1 and 3.B.2, and programs 3.3 and 3.4; Fire Protection Services policies (3.H)	Less-than-significant		
5.7 UTILITIES				
Demand for Electricity and Natural Gas, Telephone, and Cable Television Services The current utilities providers in Madera County expect to be able to maintain levels of service that would be necessary to meet new demand caused by growth expected under the <i>General Plan</i> .	General Public Facilities and Services policies (3.A.1, 3.A.2, 3.A.4, 3.A.5) and programs 3.1 and 3.2; Public Facilities and Services Funding policies 3.B.1 and 3.B.2, and programs 3.3 and 3.4; Utility Services policies (3.J)	Less-than-significant		

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
5.9 SCHOOLS				
Demand for School Facilities Population growth permitted by the <i>General Plan</i> would necessitate new school facilities in most of the school districts in the county.	Schools Siting Policies (3.I.1-3.I.7); School Financing policies (3.I.8-3.I.12)	Policy 3.I.8 requires full mitigation of school impacts, to the extent legally permissible. This would mitigate the impacts on new school development in most cases; however, this policy could be applied only where the County has discretionary authority over new development, however. This would exclude development within city limits and approved subdivisions. Development in the Madera Ranchos, Bonadelle Ranchos, and other approved subdivisions in the foothills would continue to develop and affect school facilities, and might develop at a faster rate because of the lower housing costs associated with lower school mitigation costs. Therefore, future development would still have a Significant impact on the Madera Unified School District.	Addressing the impacts of existing and approved development would require voter approval of a school bond, requiring the support of a two-thirds of the voters. Issuance and passage of such measures is difficult and cannot be guaranteed by the County.	Since bond measures require two-thirds voter approval, and the County cannot guarantee passage of a school bond measure, the impacts on the Madera Unified School District would therefore still be Significant.

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
Educational services for new students Additional school funding would be required in connection with the providing educational services and ongoing operations and maintenance for additional students.	School Financing policies (3.I.8-3.I.12)	Because of state budgetary constraints, ongoing state funding has become more limited, and growth within the school districts in Madera County will require increased state funding. The County cannot guarantee that adequate funding levels will be available to provide for maintenance of levels of funding in these school districts. This is considered a Potentially Significant impact.	Other than approval of a bond measure and state funding, there are no mitigation measures available that could mitigate the impacts of continued development in approved subdivisions within the Madera Unified School District to a less-than-significant level.	Since the County cannot guarantee these measures, this impact is still considered Potentially Significant. There are no mitigation measures available to ensure adequate state funding of school operations in the future.

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
6.1 RECREATIONAL RESOURCES				
Effects on Established Recreational Uses Designated land uses and <i>General Plan</i> policies provide for continued preservation and access to the county's existing recreational facilities and opportunities	Industrial/Economic Development policies 1.E.1 and 1.E.4; Visual and Scenic Resources policies 1.H.1 and 1.H.4; Scenic Resource policies (1.I) and programs 1.10 and 1.11	Less-than-significant		
Demand for Recreational Services The <i>General Plan</i> establishes park standards and requires new development to dedicate land or funding to meet these standards, calling for the creation of new recreation districts and county services areas where needed to provide and maintain recreational facilities.	Transit policy 2.B.4; non-Motorized Transportation policies (2.D) and programs 2.19-2.21; Storm Drainage and Flood Control policy 3.E.8; Schools policy 3.I.9; Public Recreation and Parks policies (4.A); Private Recreational Facilities and Opportunities policy 4.B.1; Recreational Trails policies (4.C) and programs 4.1-4.3; Wetland and Riparian Area policies 5.D.7; Flood Hazards policies 6.B.3 and 6.B.5	Less-than-significant		

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
6.2 CULTURAL RESOURCES				
Effects on Cultural and Historic Resources <i>General Plan</i> promotes the identification and preservation of cultural resources and requires new development to identify and protect important cultural resources.	Scenic Route policy 1.I.2; Historic and Cultural Resources policies (4.D) and programs 4.4 to 4.7; Open Space for the Preservation of Natural Resources policy 5.H.5 and program 5.8	The cumulative effect of increased development and thus human population and associated activity, could result in occasional accidental disruption and adverse effect on unidentified important sites, in spite of the <i>General Plan</i> policies and programs. This impact is considered Potentially Significant .	No additional mitigation measures are available.	
7.1 AGRICULTURAL RESOURCES				
Conversion of Prime Farmland or Farmland of Statewide Importance. The <i>General Plan</i> designates areas for exclusive agricultural uses, and provides protection for agricultural lands. Nevertheless, nearly 6,000 acres of Prime Farmland and Farmland of Statewide Importance would be converted to urban uses by 2010 under the <i>General Plan</i> , most within new growth areas.	Agricultural Land Use policies 5.A.1-5.A.12; Land Use Conflict policies 5.A.13-5.A.15; Economic Viability of Agriculture policies 5.A.16-5.A.19	The direct conversion of nearly 6,000 acres of Prime Farmland and Farmland of Statewide Importance is considered a Significant impact.	No additional mitigation measures are available.	

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
Effect on the Total Agricultural Land in the County Development under the <i>General Plan</i> would result in the loss of 24,000 acres of grazing land, roughly 7 percent of the total grazing land in the county.	Agricultural Land Use policies (5.A); Land Use Conflict policies (5.A); Economic Viability of Agriculture policies (5.A)	The conversion of seven percent of the county's grazing land is considered a Significant impact.	No additional mitigation measures are available.	
7.2 WATER RESOURCES				
Effect on the Quality of Surface Water or Groundwater Resources The <i>General Plan</i> requires new storm drainage systems to be designed in accordance with applicable standards, promotes the improvement of the quality of urban and suburban runoff, and requires new development to address such impacts. The <i>General Plan</i> also limits the use of septic tank systems to areas where community wastewater systems are not available and to locations where on-site systems can meet all applicable standards. Potential impacts from wastewater disposal are also described in Section 5.2, Wastewater Treatment and Disposal	Wastewater Collection and Disposal policies 3.D.1, 3.D.3, 3.D.4; Storm Drainage and Flood Control policies 3.E.1, 3.E.5, 3.E.6 and program 3.6; Water Resources policies 5.C.2-5.C.5 and 5.C.8 and program 5.1	The impacts on surface water quality are considered less-than-significant. The cumulative impacts on groundwater quality in the mountain areas from widespread use of on-site disposal systems is unknown and therefore considered Potentially Significant , as described in Section 5.2.	With the low densities of most existing and proposed development in the foothills and mountain area, it is probably not feasible to construct a wastewater collection and treatment system to serve all development in these areas.	

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
7.3 FOREST RESOURCES				
Effect on the Amount of Private Commercial Timberland or Productivity of Private Commercial Timberland The <i>General Plan</i> encourages the sustained productive use of forest land and discourages development that conflicts with timberland management.	Forest Resources policies (5.B)	Less-than-significant		
7.4 MINERAL RESOURCES				
Effects on Existing or Potential Mineral Resources The <i>General Plan</i> discourages the development of incompatible land use in areas with significant mineral resources and requires new non-mining development adjacent to existing mining operations to provide a buffer between the new development and the mining operations.	Mineral Resources policies (5.I)	Less-than-significant		

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
7.5 VEGETATION AND WILDLIFE RESOURCES				
Effects on Habitat, Rare and Endangered Species, and Movement of Any Resident or Migratory Fish and Wildlife Species A. New Growth Areas The development of designated new growth areas will result in the conversion of approximately 13,000 acres of open space, some of which includes naturally-occurring biotic habitats and the native plants and animals occurring within these habitats. Significant wetland and riparian habitat exists in the Rio Mesa new growth area, supporting rare and endangered species. B. Rural Development Rural residential development in the foothill and mountain areas will result in the conversion of native habitats to urban development. These habitats include several species of special status. C. Agricultural Lands The <i>General Plan</i> designates land for agricultural uses that serves as habitat for special status species. Agricultural uses could result in loss of habitat.	Wetland and Riparian Areas policies (5.D) and program 5.2; Fish and Wildlife Habitat policies (5.E) and programs 5.4 and 5.5; Vegetation policies (5.F) and program 5.6; Open Space for the Preservation of Natural Resources policies (5.H) and program 5.8	A. New Growth Areas Given the extent of vernal pool habitat and associated rare and endangered species in the habitat, the loss of wetland habitat in the Rio Mesa new growth area is considered a Significant impact. B. Rural Development Rural residential development in the foothills and mountains will result in the conversion of native habitats and associated special status species and interfere with traditional wildlife movement routes. This is considered a Significant impact. C. Agricultural Lands Increased agricultural activities in lands that serve as habitat for special status plants and animals is considered a Significant impact.	No further mitigation measures are available to reduce the loss of habitat and species.	

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
7.6 AIR QUALITY				
Compliance with Carbon Monoxide Air Quality Standards No violations of state or federal standards are indicated for existing conditions or 2010 development levels.	Summarized in Appendix B, Air Quality Policies/Programs, of the <i>Policy Document</i>	Less-than-significant		
Exceedence of SJVUAPCD Thresholds of Significance Growth in employment and population associated with development under the <i>General Plan</i> would result in a substantial increase in regional air pollutants and would exceed the SJVUAPCD's thresholds of significance.	Summarized in Appendix B, Air Quality Policies/Programs, of the <i>Policy Document</i>	Significant	No additional mitigation measures are available.	
Population and Employment Growth Projections Exceeding those Assumed in SJVUAPCD Attainment Plan The <i>General Plan</i> forecasts population and employment growth exceeding that assumed in the <i>1991 Air Quality Attainment Plan</i> . This may result in the delaying of attainment of federal and state air quality standards or could require the development of more stringent air quality measures than provided for in the <i>1991 Attainment Plan</i> .	Program 5.11	Significant	No additional mitigation measures are available.	

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
8.1 SEISMIC AND GEOLOGIC HAZARDS				
Level of Risk to Life or Property from Seismic or Geologic Hazards The <i>General Plan</i> promotes increased knowledge of potential seismic and geological problems and prohibits activity that would increase the risk associated with such problems.	General Land Use policy 1.A.5; Visual and Scenic Resources policies 1.H.2 and 1.H.3; Open Space for the Preservation of Natural Resources policy 5.H.2; Seismic and Geologic Hazards policies (6.A) and program 6.1	Less-than-significant		
Consistency with County Emergency Response Plans The <i>General Plan</i> provides for maintaining, updating, and testing of the County's emergency response plans and techniques.	Emergency Management policies (6.E) and programs 6.8 and 6.9; Public Safety and Emergency Management Facilities policies (6.F) and program 6.9	Less-than-significant		

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
8.2 FLOODING AND DAM FAILURE INUNDATION				
Risk to Life or Property from 100-Year Flood Event The <i>General Plan</i> ensures that new development is constructed so as not to create unacceptable flood flows. Any development within the 100-year floodplain must be designed and constructed for resistance to flooding and so as not to divert floodwater onto adjacent properties.	Storm Drainage and Flood Control policies (3.E) and program 3.5; Flood Hazards policies (6.B) and program 6.3	Less-than-significant		
Consistency with County Emergency Response Plans See discussion under Section 8.1, Seismic and Geologic Hazards, above.	See discussion under Section 8.1, Seismic and Geologic Hazards, above.	Less-than-significant		
8.3 WILDLAND AND URBAN FIRE POTENTIAL				
Level of Exposure of People or Property to Major Fire Hazards The <i>General Plan</i> requires new development to provide for fire protection services and to incorporate fire resistance and fire hazard reduction measures into their design.	General Land Use policy 1.A.5; Visual and Scenic Resources policy 1.H.3; Law Enforcement, Fire, and Emergency Medical Services policies (3.G); Fire Protection Services policies (3.H); Vegetation policy 5.F.8; Fire Hazards policies (6.C) and programs 6.4-6.6; Emergency Management policy 6.E.3	While <i>General Plan</i> policies reduce the potential risks associated with development in the foothill and mountain areas of high fire hazards, wildfires will still occur in these areas, exposing people and property to risk. This is considered a Potentially Significant impact.	No additional mitigation measures are available.	

Impact Category	Mitigating General Plan Policies and Programs	Level of Significance after Full Implementation of General Plan Policies and Programs	Additional Mitigation Measures	Level of Significance with Additional Mitigation
8.4 HAZARDOUS MATERIALS				
Potential for Public Health Hazard or Hazard to People or Animal or Plant Populations The <i>General Plan</i> , along with the <i>County Hazardous Waste Management Plan</i> , increase the County's commitment to monitoring and control of hazardous materials.	Hazardous Materials policies (6.G) and programs 6.11 and 6.12	Less-than-significant		
8.5 NOISE				
Future Noise Levels. The <i>General Plan</i> sets noise standards and requires new development to address its noise impacts and to address development in areas exceeding County noise standards.	Transportation Noise Source policies (7.A.1-7.A.3); Non-transportation Noise Source policies (7.A.4-7.A.7) and programs 7.1 to 7.4	The potential exists for existing noise-sensitive uses which currently are exposed to acceptable traffic noise levels to experience increased traffic noise levels in excess of <i>General Plan</i> standards. This is considered a Potentially Significant impact.	No additional mitigation measures are available.	

CHAPTER 2

ASSUMPTIONS AND DEVELOPMENT ESTIMATES

This chapter summarizes estimated development potential under the *General Plan* and the assumptions upon which these estimates are based. The chapter presents estimates of development levels in the year 2010 and estimates of holding capacity at "buildout" of the Plan. These estimates, particularly the 2010 estimates, provide the basis for much of the impact assessment in the rest of this report.

2.1 GEOGRAPHIC AREAS OF ANALYSIS

To help organize the environmental analysis, Mintier & Associates has divided the county into eight geographic analysis areas. These areas have no policy status; they are aggregations of traffic analysis zones and are used simply to geographically focus the analysis of impacts of the *General Plan*. Figure 2-1 shows the boundaries of the geographic analysis areas and subareas.

The discussions of development estimates, buildout holding capacity, and development assumptions in this chapter and the analyses in Chapters 3 through 9 refer primarily to the geographic analysis areas. Where analyses are not well-suited to discussion in terms of these areas, however, they have been aggregated into larger regions (e.g., valley, foothill, mountains). The eight areas are as follows:

WEST/AGRICULTURE (AREA 1)

This area includes the western third of the county, generally located west of State Route 99 and west of the greater Madera and Chowchilla areas. This area is devoted primarily to intensive agricultural uses, and includes some very small rural communities, including Ripperdan, La Vina, and the Eastside Acres area near Firebaugh, and some areas of rural residential development.

CHOWCHILLA/FAIRMEAD (AREA 2)

This area includes the city of Chowchilla, the unincorporated community of Fairmead, the California State Women's Correctional Facility and the site of its planned expansion, and surrounding agricultural areas.

MADERA (AREA 3)

This area includes the greater Madera area. For purposes of analysis, this area is broken down further into three subareas:

- a. City of Madera General Plan Area, including land within the city limits and unincorporated land planned under the adopted City of Madera General Plan
- b. State Center Community College Area Plan Area
- c. Other unincorporated areas around Madera and State Route 99, including the Madera Acres area

RAYMOND/CENTRAL (AREA 4)

This area includes the northern central part of the county between the Chowchilla area and Ahwahnee, north of Yosemite Lakes Park and the Fresno River. This area includes the unincorporated community of Raymond, and the Lake Madera Country Estates and Valley Lake Ranchos areas.

SOUTH 41 CORRIDOR (AREA 5)

This area includes southern Madera County, generally located south of State Route 145 and east of State Route 99 and served by State Route 41. For purposes of analysis, this area is divided further into three subareas:

- a. Rio Mesa Area
- b. Gunner Ranch West Area
- c. Other unincorporated area, including the Madera Ranchos and Bonadelle Ranchos areas and the Rolling Hills subdivision

NORTH 41 CORRIDOR (AREA 6)

This area includes communities along State Route 49 and along State Route 41 north of State Route 145, including Ahwahnee, Oakhurst, Coarsegold, and Yosemite Lakes Park. This area also includes the Bass Lake area.

NORTH FORK/MILLERTON (AREA 7)

This area is east of State Route 41, north of State Route 145, and generally south of Road 200, including the unincorporated communities of North Fork and South Fork, and the area north of Lake Millerton.

EAST/NATIONAL FOREST (AREA 8)

This area includes the far eastern part of the county. It is almost entirely under federal jurisdiction, including parts of the Sierra National Forest, the Inyo National Forest, and Yosemite National Park, although there are some private inholdings within this area.

2.2 1990 (EXISTING) DEVELOPMENT ESTIMATES

This *EIR* uses 1990 as the baseline for assessing impacts of future development under the *General Plan*. With the exception of the area within the City of Madera General Plan Area, estimates of population and housing are based on 1990 Census information, and employment estimates are derived from data from the California Employment Development Department (EDD). Population and housing data was derived from U. S. Census files according to census block groups and assigned by County staff to traffic analysis zones within each geographic analysis area. Employment data from EDD for the entire county was allocated to traffic analysis zones by County staff for employers of 10 or more. Approximately 16 percent of the employers in the county in 1990 employed fewer than ten. To account for these small employers, a factor of 16 percent increase was applied to employment within each geographic analysis area. Another 2,500 employees are not included in any geographic analysis area as they reflect seasonal, mobile agricultural workers. Population, housing, and employment information within the City of Madera's General Plan Area is based on data developed for the City of Madera's traffic model.

Existing (1990) development estimates were tabulated according to dwelling units or employees for each of the following seven categories:

1. Single family (dwelling units)
2. Multi-family (dwelling units)
3. Retail (employees)

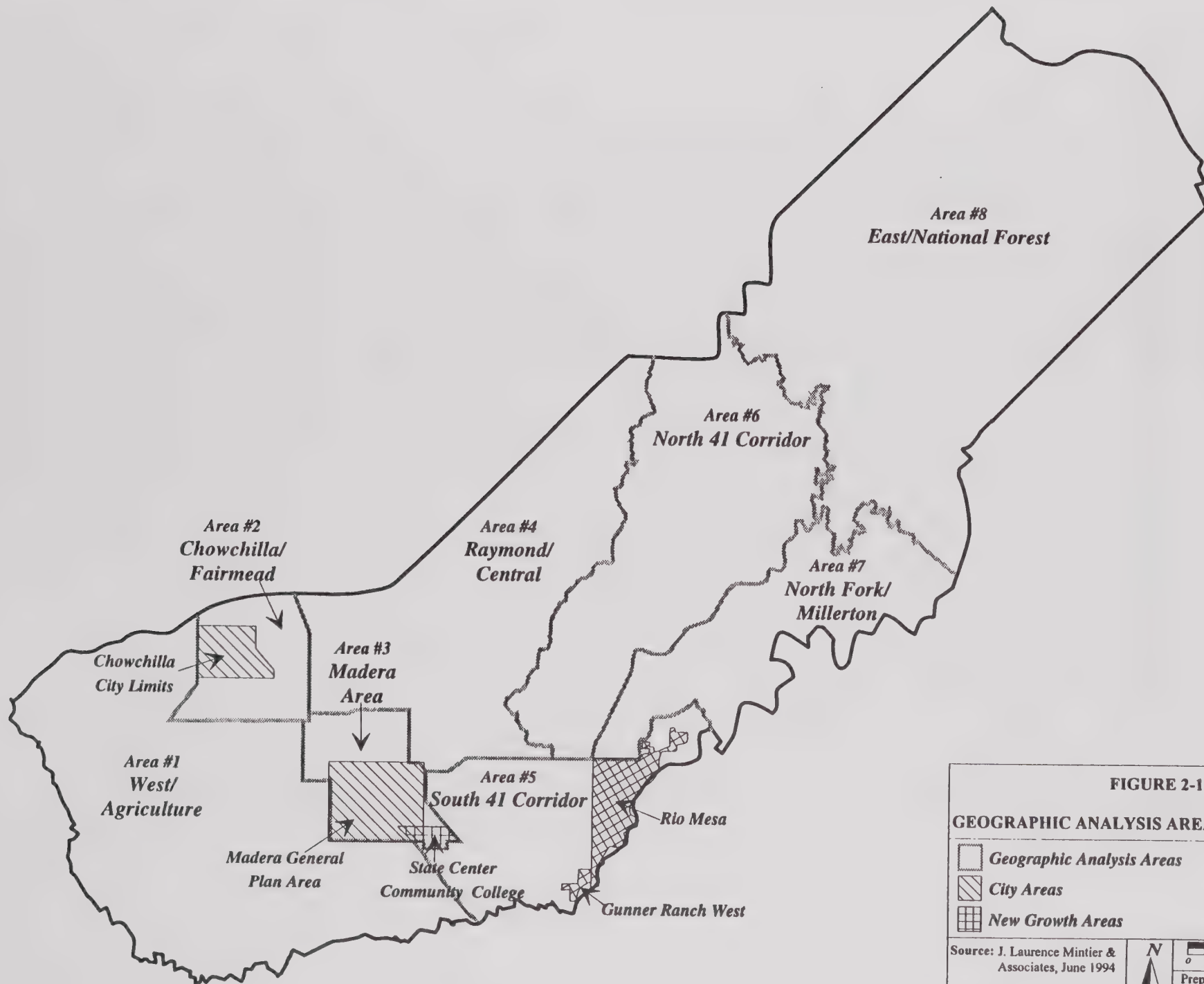


FIGURE 2-1

GEOGRAPHIC ANALYSIS AREAS AND SUBAREAS

	Geographic Analysis Areas
	City Areas
	New Growth Areas

Source: J. Laurence Mintier & Associates, June 1994

Prepared by: J. Laurence Mintier & Associates, April 1994

4. Office (employees)
5. Industrial (employees)
6. Government/Education (employees)
7. Other (employees)

Table 2-1 summarizes the 1990 baseline information by geographic analysis area.

TABLE 2-1

**SUMMARY OF MADERA COUNTY 1990 DEVELOPMENT LEVELS
By Geographic Analysis Area**

No.	Geographic Analysis Area	Size (Ac)	Residential/Population					Employees					
			SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1	West/Agriculture	272,388	2,248	40	2,288	3.64	7,903	0	0	127	2,523	322	2,972
2	Chowchilla/Fairmead												
	Incorporated Chowchilla*	3,867	1,950	375	2,325	2.74	6,043	276	188	215	13	374	1,066
	Unincorp. area	42,396	717	40	757	3.35	2,408	0	0	734	158	832	1,724
	Subtotal, Chow/Fair	46,263	2,667	415	3,082	2.98	8,451	276	188	949	171	1,206	2,790
3	Madera Area												
	Madera General Plan Area	18,988	9,213	2,517	11,730	3.28	36,588	4,577	2,100	3,081	3,271	670	13,699
	State Center CC Area	1,832	22	0	22	3.21	67	0	0	0	0	0	0
	Other unincorp. area	20,950	1,767	0	1,767	3.59	6,030	0	14	205	881	52	1,152
	Subtotal, Madera Area	41,770	11,002	2,517	13,519	3.32	42,685	4,577	2,114	3,286	4,152	722	14,851
4	Raymond/Central	189,403	700	63	763	3.04	2,204	13	36	154	132	17	352
5	South 41 Corridor												
	Rio Mesa	16,140	102	0	102	1.93	187	0	0	0	0	0	0
	Gunner Ranch West	1,135	38	0	38	3.00	127	0	0	0	0	0	0
	Remaining area	81,680	2,557	0	2,557	3.43	8,328	109	15	170	252	57	603
	Subtotal, South 41	98,955	2,697	0	2,697	3.37	8,642	109	15	170	252	57	603
6	North 41 Corridor	189,782	6,878	581	7,459	2.25	15,910	686	714	439	346	681	2,866
7	North Fork/Millerton	112,903	907	85	992	2.44	2,304	56	23	0	16	491	586
8	East/National Forest	422,435	0	0	0	0.00	0	0	0	0	0	0	0
	Other**												2,525
	GRAND TOTAL	1,373,899	27,099	3,701	30,800	3.01	88,099	5,717	3,090	5,125	7,592	3,496	27,545

Notes:

SF DUs = Single family dwelling units

MF DUs = Multi-family dwelling units

PPH = Population per household

Pop = Population

A five percent residential vacancy rate is assumed in all geographic analysis areas

*Population and employment includes the population in 1990 contained within the area of the City of Chowchilla's 1993 City Limits; this 1993 city limits are used because they are assumed to be the most accurate.

** "Other" includes seasonal, mobile agricultural employment that could not be allocated to any particular geographic analysis area

2.3 HOLDING CAPACITY OF THE PLAN

LAND USE DESIGNATIONS

The holding capacity of the *General Plan* is the total population, housing, and employment that could theoretically (but realistically) be accommodated by the designations on the *Land Use Diagram*. Countywide holding capacity was calculated based on the location, types, and densities/intensities of development permitted by the land use designations on the *Land Use Diagram*.

The *General Plan* defines a total of 21 residential, commercial, industrial, agricultural, and other land use designations to depict the types of development that will be allowed in the different geographic areas of the unincorporated county. Not all of the land use designations defined in the *Policy Document* are depicted on the *Land Use Diagram*; some are reserved for use in future area plans. The *Land Use Diagram* also shows the locations of the cities in Madera County, but not land use designations within their incorporated boundaries.

Table 2-2 summarizes for each land use designation the standards for minimum lot size, the allowable range or maximum number of dwelling units per gross acre, and the maximum allowable floor-area-ratio for non-residential uses. The table also indicates the total acreage within each designation on the *Land Use Diagram*. Note that these totals do not include land within the incorporated cities or unincorporated land within the City of Madera General Plan Area.

TABLE 2-2
SUMMARY OF LAND USE DESIGNATIONS

Land Use Designation	Primary Allowable Uses	Maximum Residential Density¹	Maximum Nonresidential Building Intensity (FAR)²	Total Acres³	Percent of Total
Agriculture Exclusive (AE)	Agricultural uses and support facilities; minimum 36 acre parcel size	2 DUs per parcel	0.25 FAR for agricultural services; 0.50 for poultry ranches, greenhouses	678,860	50.0%
Agriculture (A)	Agricultural uses and support facilities; minimum 18 acre parcel size	2 DUs per parcel	0.25 FAR for agricultural services; 0.50 for poultry ranches, greenhouses	40,612	3.0%
Total Agricultural Designations				719,472	53.0%
Open Space (OS)	Low intensity agricultural uses, grazing, forestry, recreational uses, habitat and hazard protection areas	0.05 DUs per gross acre	0.10 FAR	512,477	37.7%
Total Open Space Designation				512,477	37.7%
Agricultural Residential (AR)	Single family detached homes, limited agricultural uses; minimum parcel size of 10 acres	2 DUs per parcel	0.10 FAR	14,211	1.0%
Rural Estate Residential (RER)	Single family detached homes, limited agricultural uses; minimum parcel size of 5 acres	2 DUs per parcel	0.10 FAR	Not applied on <i>Land Use Diagram</i>	
Rural Residential (RR)	Single family detached homes, limited agricultural uses	0.5 DUs per gross acre	0.30 FAR	68,096	5.0%
Very Low Density Residential (VLDR)	Single family detached homes	2.0 DUs per gross acre	0.30 FAR	17,971	1.3%
Low Density Residential (LDR)	Single family detached and attached homes	7.5 DUs per gross acre	0.30 FAR	8,826	0.7%

TABLE 2-2 (Continued)

SUMMARY OF LAND USE DESIGNATIONS

Land Use Designation	Primary Allowable Uses	Maximum Residential Density ¹	Maximum Nonresidential Building Intensity (FAR) ²	Total Acres ³	Percent of Total
Medium Density Residential (MDR)	Single family detached and attached homes, duplexes, triplexes, fourplexes, garden apartments, mobilehome parks	12.0 DUs per gross acre	0.30 FAR	734	0.1%
High Density Residential (HDR)	Multi-family residential units, mobilehome parks, professional offices	25.0 DUs per gross acre	0.30 FAR	1,315	0.1%
Total Residential Designations				111,153	8.2%
Neighborhood Commercial (NC)	Neighborhood and locally-oriented retail and service uses		0.40 FAR	265	--
Community Commercial (CC)	Retail, wholesale, services, restaurants, and offices		0.60 FAR except in downtowns and village core areas where 1.00 is allowed	1,521	0.1%
Highway Service Commercial (HSC)	Restaurants, service stations, truck stops, hotels/motels, retail and amusement uses oriented to the traveling public		0.40 FAR	707	0.1%
Heavy Commercial (HC)	Land extensive retail uses, warehouses, wholesale commercial uses		0.40 FAR	105	--
Professional Office (PO)	Professional, administrative, medical offices; multi-family residential uses	25 DUs per gross acre	0.75 FAR	185	--
Total Commercial/Office Designations				2,783	0.2%
Transit-Oriented Commercial (TOC)	Uses around existing or future transit centers, including multi-family residential, retail, restaurants, services, offices, light industrial, research and development	30 DUs per gross acre	1.00 FAR	Not applied on <i>Land Use Diagram</i> ; reserved for use in future area plans	

TABLE 2-2 (Continued)

SUMMARY OF LAND USE DESIGNATIONS

Land Use Designation	Primary Allowable Uses	Maximum Residential Density ¹	Maximum Nonresidential Building Intensity (FAR) ²	Total Acres ³	Percent of Total
Mixed Use Core (MUC)	Uses appropriate for new downtowns for planned new communities, including single and multi-family residential, retail, restaurants, services, offices	30 DUs per gross acre	1.00 FAR	120	--
Total Mixed Use Designations				120	--
Light Industrial/ Business Park (LI)	Industrial parks, research and development, warehouses, light manufacturing, general commercial		0.50 FAR	3,010	0.2%
Heavy Industrial (HI)	Industrial parks, warehouses, manufacturing		0.50 FAR	3,868	0.3%
Total Industrial Designations				6,878	0.5%
Public Institutional (PI)	Colleges, schools, hospitals, government offices and courts, penal institutions		0.90 FAR	2,832	0.2%
New Growth Area (NGA)	Extensive new planned developments; only designations specified under the A and OS designations prior to adoption of an area plan for designated new growth areas	Based on Draft State Center Community College Area Plan (July 1995)		1,867	0.1%
TOTAL, ALL DESIGNATIONS ³				1,357,582	100.0%

¹Maximum residential density is expressed as maximum dwelling units per parcel or as maximum dwelling units per gross acre

²Maximum nonresidential building intensity is expressed as floor area ratio (FAR). FAR is the ratio of building floor area to site area. See Part I of the *General Plan Policy Document* for a detailed definition of FAR

³Total acres of unincorporated land designated on the *Land Use Diagram*, excluding unincorporated land within the City of Madera General Plan Area. No land use designations are applied to incorporated land within the cities of Madera and Chowchilla

DUs = Dwelling Units

FAR = Floor Area Ratio

Source: J. Laurence Mintier & Associates

ASSUMPTIONS AND METHODOLOGY FOR CALCULATING BUILDOUT

To determine the holding capacity of planned land uses in the unincorporated area of the county, County staff calculated the total acreage within each of the designations on the *Land Use Diagram* by traffic analysis zone within each geographic analysis area, except for unincorporated land within the City of Madera's General Plan Area. Mintier & Associates then calculated population and employment development potential by applying factors for the assumed residential density or use intensity to the amount of acreage within each designation, except in areas where more specific data existed (i.e., proposed new growth areas and existing subdivisions). The factors reflect adjustments based on historic experience in Madera County, and elsewhere, that indicates most land will not develop at its maximum allowed intensity because of market forces, parcel-specific site constraints, regulatory constraints (e.g., zoning), and other factors. The development densities and intensities reflected in these factors are, therefore, lower than those permitted by the standards for the land use designations defined in the *Policy Document*.

Mintier & Associates also converted land use designations into number of employees by assuming average employee density factors (i.e., employees per square foot). Implicit in the multipliers is a ten percent building vacancy.

The result of these adjustments is a countywide holding capacity estimate that is more realistic than if it were based on maximum permitted development intensity. Table 2-3 lists the maximum allowable density/intensity for each land use designation, the assumed average density/intensity applied to calculate buildout, and the category of dwelling units or employees to which each land use designation was converted.

TABLE 2-3
SUMMARY OF BUILDOUT DENSITY/INTENSITY ASSUMPTIONS
BY LAND USE DESIGNATION

Land Use Designation	Maximum Allowable Density/ Intensity	Assumed Average Density/ Intensity	Land Use Category (units or employees)
RESIDENTIAL			
Agriculture Exclusive (AE)	Two single family DUs per 36 acre parcel	One single family DU per 80 acres	Single family DUs
Agriculture (A)	Two single family DUs per 18 acre parcel	One single family DU per 20 acres	Single family DUs
Open Space (OS)	0.05 DUs per gross acre	No residential or nonresidential development	
Agricultural Residential (AR)	Two single family DUs per 10 acre minimum parcel	One single family DU per 10 acres	Single family DUs
Rural Estate Residential (RER)	Two single family DUs per 5 acre minimum parcel	Not applied to Land Use Diagram	
Rural Residential (RR)	0.5 DUs per gross acre	0.25 DUs per acre	Single family DUs
Very Low Density Residential (VLDR)	2.0 DUs per gross acre	1.0 DU per acre	Single family DUs
Low Density Residential (LDR)	7.5 DUs per gross acre	5.5 single family DUs per gross acre	Single family DUs
Medium Density Residential (MDR)	12 DUs per gross acre	9.0 multi-family DUs per gross acre	Multi-family DUs
High Density Residential (HDR)	25 DUs per gross acre	18.5 multi-family DUs per gross acre	Multi-family DUs
Transit-Oriented Commercial (TOC)	30 DUs per gross acre	Not applied to Land Use Diagram; reserved for use in future area plans	
Mixed Use Core (MUC)	30 DUs per gross acre	Not applied to Land Use Diagram; reserved for use in future area plans	
New Growth Area (NGA)	Based upon buildout assumptions contained in Draft State Center Community College Area Plan		Single family DUs Multi-family DUs
NON-RESIDENTIAL			
Neighborhood Commercial (NC)	0.40 FAR	0.25 FAR 550 square feet per employee	Retail employees
Community Commercial (CC)	0.60 FAR except in downtowns and village core areas where maximum FAR is 1.00	0.25 FAR 550 square feet per employee	Retail employees
Highway Service Commercial (HSC)	0.40 FAR	0.25 FAR 600 square feet per employee	Other employees

TABLE 2-3 (Continued)

**SUMMARY OF BUILDOUT DENSITY/INTENSITY ASSUMPTIONS
BY LAND USE DESIGNATION**

Land Use Designation	Maximum Allowable Density/ Intensity	Assumed Average Density/ Intensity	Land Use Category (units or employees)
Heavy Commercial (HC)	0.40 FAR	0.25 FAR 600 square feet per employee	Other employees
Professional Office (PO)	0.75 FAR	0.25 FAR 350 square feet per employee	Office employees
Transit-Oriented Commercial (TOC)	1.00 FAR	Not applied to Land Use Diagram; reserved for use in future area plans	
Mixed Use Core (MUC)	1.00 FAR	Not applied to Land Use Diagram; reserved for use in future area plans	
Light Industrial/ Business Park (LI)	0.50 FAR	0.25 FAR 825 square feet per employee	Industrial employees
Heavy Industrial (HI)	0.50 FAR	0.25 FAR 825 square feet per employee	Industrial employees
Public Institutional (PI)	0.90 FAR	Based on specific proposals	Government/education employees
New Growth Area (NGA)	Based upon buildout assumptions contained in Draft State Center Community College Area Plan		Retail employees Office employees Other employees Industrial employees Government/education employees
Source: J. Laurence Mintier & Associates			

To estimate population holding capacity, all areas were assumed to have a five percent residential vacancy rate. The number of occupied housing units was then multiplied by an assumed number of persons per household that varies by geographic analysis area; these variations are based on current household sizes with some projected changes based on current trends. These estimates are described in the following section.

As indicated above the holding capacity estimates for some of the unincorporated area of the county were derived from other sources. For the three new growth areas--Gunner Ranch West, Rio Mesa, and State Center Community College, the holding capacity is based on the adopted or draft plans prepared for each area. To calculate buildout of approved subdivisions, County staff identified the total number of approved lots. Holding capacity for unincorporated land within the City of Madera's General Plan Area is based on land use assumptions used in the City's traffic model. Buildout of land within Chowchilla's city limits is based on the City's 1993 *Housing Element* and the *Eastside Annexation EIR*.

2.4 2010 GROWTH ESTIMATES

The preceding section described buildout holding capacity under the *General Plan* in terms of dwelling units and employees. This holding capacity represents an estimate of the *total* development potential of the county. Economic analysis of Madera County conducted for the General Plan Update indicates that, for the county overall and for the individual geographic analysis areas, the total development potential represented by the holding capacity estimate is substantially higher than the amount of development likely to occur by the year 2010, a reasonable time span for planning and evaluating impacts.

COUNTYWIDE GROWTH ESTIMATES

The basis for assessing the impacts of the *General Plan* is estimated countywide growth in population and employment by the year 2010. The 2010 development estimates used in this *EIR* are based on 2010 countywide population and employment growth forecasts prepared by David Taussig & Associates for the General Plan Update. These forecasts, which are based on growth forecasts developed by the California Department of Finance (DOF), have been adjusted upward to account for substantial areas in southern Madera County that have not historically been designated for development, but which are designated as new growth areas in the *General Plan*. This upward adjustment reflects an assumption that the new growth areas will capture a larger share of growth from the Fresno metropolitan area than Madera County has historically captured and than DOF assumed in their projections.

Countywide employment growth forecasts for 2010 developed by David Taussig & Associates were based on historic growth trends adjusted to account for additional population growth consistent with the 2010 population estimates. Table 2-4 presents the countywide population and growth forecasts used as the basis for impact analysis in the *EIR*.

TABLE 2-4

**MADERA COUNTY POPULATION AND EMPLOYMENT GROWTH FORECASTS
1990 AND 2010**

	1990	2010	Annual Average Compound Growth Rate
Population	88,090	177,071	3.55%
Employment	27,500	61,866	4.14%

Sources: U. S. Bureau of the Census, 1990; California Employment Development Department, 1990; David Taussig & Associates, 1994

Because Madera County is expected to continue to be one of the fastest growing counties in the San Joaquin Valley and California, the 2010 population and employment forecasts assume long-term strong growth rates. Madera County's share of regional population and employment is expected to increase between 1990 to 2010. Implicit in the 2010 projections is an increase in the ratio of employment to population (or non-residential to residential development) in Madera County. According to this scenario, Madera County becomes a more

"urban" area, with a relatively larger supply of jobs, services, and shopping opportunities for residents than currently exists.

These growth forecasts further assume that there are no constraints on development that cannot be addressed in conjunction with new development. If this is not the case, Madera County may not achieve forecasted growth by 2010. These projections should, therefore, be considered a reasonable "highest growth" scenario for development in Madera County.

GROWTH ESTIMATES BY GEOGRAPHIC ANALYSIS AREA

For the purposes of EIR analysis, Mintier & Associates allocated the 2010 countywide population and employment estimates to the eight geographic analysis areas. In doing so, Mintier & Associates translated the population estimates into the number of single and multi-family dwelling units necessary to accommodate the new residents and distributed total estimated employment among five employment categories (retail, office, industrial, other, government/education). New development was allocated consistent with allowable uses of the underlying land use designations.

The allocation of 2010 population and employment assumed in this *EIR* represents one possible outcome for the amount and distribution of growth in Madera County. The specific numbers for any geographic analysis area, subarea, or city are gross estimates. While projections derived from the cities, proposed plans and projects, and other studies were incorporated into these estimates, this analysis could not reasonably consider all of the factors that would be appropriate for forecasts done for community-level and project-specific planning. Forecasts prepared for specific development projects or for other purposes may appropriately reach different conclusions and reveal different information.

The allocation of growth to the geographic analysis areas involved making several general assumptions. These are as follows:

1. Development forecasts of the County's *Highway 41 Corridor Study* (June 1989), which described historic and projected absorption within the Highway 41 Corridor, were used to allocate residential growth to areas along the Highway 41 Corridor. The growth forecasts of this study were adjusted upward slightly to reflect continued high rates of growth in the foothill and mountain areas.
2. Existing subdivisions were assumed to continue to develop at historic growth rates or slightly higher until buildout of the subdivisions was reached. Approved and proposed subdivisions were assumed to develop before raw land without any existing entitlements or submitted plans.
3. Growth forecasts for the City of Chowchilla were based on the projections developed in connection with the City's General Plan Update, which indicated a 2010 population of 9,500 within the city limits.
4. Growth forecasts for the City of Madera were based on the City's General Plan projections.
5. A five percent residential vacancy was assumed in all geographic analysis areas in 2010 (and at buildout).
6. The 1990 household size figures were used to estimate population for 2010 and at buildout in most geographic areas. In some areas, these figures were adjusted, as explained by geographic analysis area below.

7. Future government and education employment for 2010 was estimated only where future facilities are planned or proposed (e.g., currently planned school, prison expansion, community college, hospital), along with minor increases at existing institutions.

The key assumptions for each geographic analysis area are described below.

1. West/Agriculture

Population in this area is assumed to increase at a rate of 2.0 percent, compounded annually, from 1990 to 2010. The 1990 household size of 3.64 is assumed to remain constant through buildout. Most of the projected development in this area is assumed to be single family homes on large agricultural parcels (40 acres or larger). Development is assumed to be more concentrated near the two cities than farther to the west.

Employment growth in this area is assumed to be primarily in agricultural services and industry.

2. Chowchilla/Fairmead

Population growth within Chowchilla's 1993 city limits is based on the City of Chowchilla's 2010 projections. All growth by 2010 is assumed to occur within the 1993 city limits, based on the City's projections and two recent large annexations. Chowchilla's population per household of 2.74 is assumed to remain constant through buildout.

Growth in the unincorporated part of the Chowchilla/Fairmead area is assumed at a 2.0 percent annual compound rate, and the 1990 household size of 3.35 is assumed to remain constant through buildout.

An additional 700 employees are projected at the expanded prison site. Other employment growth is assumed to be primarily local serving retail and services, some agricultural employment, and limited industrial growth.

3. Madera

Population growth for the entire Madera area is assumed at 3.5 percent compounded annually. This is midway between the growth range of 3.0 to 4.0 percent projected in the City of Madera's General Plan. The average household size in 2010 and at buildout is assumed to be 3.2 persons. This is consistent with the projected household size in the City's General Plan. This is a slight reduction from 1990 levels, but is consistent with what would be expected in a city with more multi-family units, which tend to house smaller households.

Within the City of Madera's General Plan Area, it is assumed that vacant land within the current city limits would develop before land outside the city limits that is not yet subdivided. The land designated as "reserve" in the City's General Plan is not assumed to develop at urban densities by 2010; the *Land Use Diagram* designates the City's reserve areas as Agriculture.

Most of the new growth within the unincorporated areas outside the City of Madera General Plan Area is assumed to occur as existing subdivisions build out, with the exception of the State Center Community College Area. Within the State Center Community College Area, growth is assumed at 100 units per year from 1996 to 2000, and 200 units per year from 2001 to 2010.

Substantial employment growth is assumed in the Madera area, consistent with its role as the largest metropolitan area in the county and its projected growth in population. It is assumed that Madera will continue to expand on its role as the government and retail center of the county, and will attract more industrial growth. This will include approximately 500 employees at the proposed community college.

4. Raymond/Central

Population growth in this area is assumed at a rate of 2.0 percent compounded annually. The 1990 household size of 3.04 is assumed to remain constant through buildout. Most of the projected development is assumed to occur in the Lake Madera Country Estates and the Valley Lake Ranchos subdivisions, with limited development in the community of Raymond.

Employment growth in this area is assumed to be limited primarily to local retail and services, some agricultural services, and very limited new industrial development.

5. South 41 Corridor

This area is assumed to accommodate substantial growth, since it includes two designated new growth areas. This growth is assumed to be driven largely by economic growth in the larger Fresno metropolitan area, immediately to the south. The household size in this area is projected to be 3.00 in 2010 and at buildout. This is lower than the 1990 household size, but is higher than the 2.8 persons per household assumed in the *Highway 41 Corridor Study*. The decrease in household size is expected as a result of the increased percentage of multi-family units in the two new growth areas.

Residential growth within the Gunner Ranch West area is assumed to be 75 dwelling units per year from 1995 to 2000 and 100 units per year from 2001 to 2010. Residential growth within the Rio Mesa area is assumed to be 200 units per year from 1995 to 2000 and 250 units per year from 2001 to 2010. Residential growth estimates in this area are based on economic studies for the Rio Mesa and Gunner Ranch West projects and projections by Caltrans that assume that these two projects combined will absorb 250 to 375 units per year through 2020. Growth is assumed at the lower end of that range in the 1990s, with an increase anticipated in the next decade as these areas gain momentum and complete needed infrastructure improvements.

Growth in the remainder of this area is based on projections in the *Highway 41 Corridor Study* and historic growth rates for existing subdivisions. Nearly all growth in the South 41 Corridor area outside the Rio Mesa and Gunner Ranch West areas is assumed to occur on existing subdivided land.

The greatest employment growth in this area is expected to occur in connection within the Gunner Ranch West area, including the Valley Children's Hospital and surrounding medical office development. Other employment growth within the South 41 Corridor area is expected to be supportive of the local population base, including retail and office development and some industrial development. This area may also capture some businesses and industry that serve the Fresno metropolitan area.

6. North 41 Corridor

Growth in this area is assumed at a 3.0 percent annual compound increase in housing stock. This is slightly higher than was projected by the *Highway 41 Corridor Study* (which was about 2.5 percent annually), but reflects a continuation of the growth trend resulting primarily from an influx of commuters to Fresno and Madera job centers attracted to this area due to its rural, mountain setting.

The 1990 household size of 2.25 is assumed to increase to 2.60 in 2010 and at buildout. While it is anticipated that this area will continue to attract retirees, it is expected that retirees will be a smaller proportion of the total new households than in 1990, with a higher proportion of commuter households or local wage earners with children, resulting in a higher average household size. Existing subdivisions (Yosemite Lakes Park) and approved development at Bass Lake are assumed to be almost fully built by 2010. Development in other areas of the North 41 Corridor is anticipated to occur nearest to State Route 41 before moving into outlying areas not currently served by roads or other infrastructure.

Employment growth in this area is assumed to be driven by three factors: 1) local retail and services to serve the population in this area as the population base grows; 2) tourist-related businesses and services; and 3) limited employment growth of companies locating to the area because of its relatively affordable housing and quality of life.

7. North Fork/Millerton

Growth in this area is assumed at a 3.0 percent annual compound increase in housing stock. This is higher than was projected by the *Highway 41 Corridor Study* (about 2.0 percent annually), but anticipates a change in the character of the area as it becomes part of the commuter shed for the Fresno and Madera job centers, due to its proximity and convenient access to State Route 41 via Road 200.

The 1990 household size of 2.44 is projected to increase to 2.75 in 2010 and at buildout to account for an increase in families with children. Employment growth in this area is assumed to consist primarily of local serving retail and services, with some limited industrial growth.

8. East/National Forest

Very little growth is expected in this area, since most of the land is under federal jurisdiction. The growth that is expected is assumed to be limited to the development of second homes/vacation homes on private inholdings in the national forest land. Recreational use and forestry is expected to continue in this area.

Tables 2-5 through 2-12 list the 1990, 2010, and buildout estimates for each geographic analysis area, as well as the forecasted increase in development from 1990 to 2010. Table 2-13 summarizes this information for the entire county. Figure 2-2 summarizes estimated population and employment growth from 1990 to 2010 by geographic analysis area.

TABLE 2-5

**DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT
WEST/AGRICULTURE AREA**

West/Agriculture	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	272,388	2,248	40	2,288	3.64	7,903	0	0	127	2,523	322	2,972
2010	272,388	3,323	73	3,396	3.64	11,743	0	0	227	2,823	350	3,400
Increase, 1990-2010		1,075	33	1,108		3,840	0	0	100	300	28	428
Buildout	272,388	4,377	259	4,636	3.64	16,031	951	0	2,063	6,302	350	9,666

Notes:

SF DUs = Single family dwelling units

MF DUs = Multi-family dwelling units

PPH = Population per household

Pop = Population

A five percent residential vacancy rate is assumed

TABLE 2-6

**DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT
CHOWCHILLA/FAIRMEAD AREA**

Incorp. Chowchilla	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	3,867	1,950	375	2,325	2.74	6,043	276	188	215	13	374	1,066
2010	3,867	3,000	650	3,650	2.74	9,501	525	300	500	200	475	2,000
Increase, 1990-2010		1,050	275	1,325		3,458	249	112	285	187	101	934
Buildout	3,867	4,240	1,153	5,493	2.74	14,298	776	408	3,215	315	475	5,189

Unincorp. Area	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	42,396	717	40	757	3.35	2,408	0	0	734	158	832	1,724
2010	42,396	1,079	40	1,119	3.35	3,561	100	0	1,200	600	1,630	3,530
Increase, 1990-2010		362	0	362		1,153	100	0	466	442	798	1,806
Buildout	42,396	2,586	1,148	3,734	3.35	11,883	3,425	0	30,904	2,490	1,630	38,449

Total Chow/Fair Area	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	46,263	2,667	415	3,082	2.89	8,451	276	188	949	171	1,206	2,790
2010	46,263	4,079	690	4,769	2.88	13,062	625	300	1,700	800	2,105	5,530
Increase, 1990-2010		1,412	275	1,687		4,611	349	112	751	629	899	2,740
Buildout	46,263	6,826	2,301	9,227	2.99	26,182	4,201	408	34,119	2,805	2,105	43,638

Notes:

City of Chowchilla's 2010 population projections based on City of Chowchilla's growth projections

Population and employment for incorporated Chowchilla for 1990, 2010, and buildout is within the 1993 city limits

SF DUs = Single family dwelling units

MF DUs = Multi-family dwelling units

PPH = Population per household

Pop = Population

A five percent residential vacancy rate is assumed

TABLE 2-7

**DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT
MADERA AREA**

Madera Gen. Plan. Area	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	18,988	9,213	2,517	11,730	3.28	36,588	4,577	2,100	3,081	3,271	670	13,699
2010	18,988	15,618	5,212	20,830	3.20	63,323	10,014	4,500	8,000	6,036	670	29,220
Increase, 1990-2010		6,405	2,695	9,100		26,735	5,437	2,400	4,919	2,765	0	15,521
Buildout	18,988	26,520	13,100	39,620	3.20	120,445	23,629	8,320	52,650	13,287	670	98,556

State Ctr. Comm. College	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	1,832	22	0	22	3.21	67	0	0	0	0	0	0
2010	1,832	1,950	550	2,500	3.20	7,600	300	400	400	400	550	2,050
Increase, 1990-2010		1,928	550	2,478		7,533	300	400	400	400	550	2,050
Buildout	1,832	3,398	1,102	4,500	3.20	13,680	1,600	3,050	800	800	550	6,800

Remaining Uninc. Area	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	20,950	1,767	0	1,767	3.59	6,030	0	14	205	881	52	1,152
2010	20,950	3,977	75	4,052	3.20	12,318	100	39	377	1,600	75	2,191
Increase, 1990-2010		2,210	75	2,285		6,288	100	25	172	719	23	1,039
Buildout	20,950	4,165	740	4,596	3.20	13,972	670	161	9,876	2,777	75	13,559

Total Madera Area	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	41,770	11,002	2,517	13,519	3.32	42,685	4,577	2,114	3,286	4,152	722	14,851
2010	41,770	21,545	5,837	27,382	3.20	83,241	10,414	4,939	8,777	8,036	1,295	33,461
Increase, 1990-2010		10,543	3,320	13,863		40,556	5,837	2,825	5,491	3,884	573	18,610
Buildout	41,770	34,083	14,942	48,716	3.20	148,097	25,899	11,531	63,326	16,864	1,295	118,915

Notes:

SF DUs = Single family dwelling units MF DUs = Multi-family dwelling units PPH = Population per household Pop = Population

A five percent residential vacancy rate is assumed

TABLE 2-8

**DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT
RAYMOND/CENTRAL AREA**

Raymond/Central	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	189,403	700	63	763	3.04	2,204	13	36	154	132	17	352
2010	189,403	1,131	120	1,251	3.04	3,613	100	50	275	325	50	800
Increase, 1990-2010		431	57	488		1,409	87	14	121	193	33	448
Buildout	189,403	5,987	741	6,728	3.04	19,430	1,149	50	1,446	572	50	3,267

Notes:

SF DUs = Single family dwelling units

MF DUs = Multi-family dwelling units

PPH = Population per household

Pop = Population

A five percent residential vacancy rate is assumed

TABLE 2-9

**DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT
SOUTH 41 CORRIDOR AREA**

Rio Mesa	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	16,140	102	0	102	1.93	187	0	0	0	0	0	0
2010	16,140	3,328	372	3,700	3.00	10,545	650	350	600	700	250	2,550
Increase, 1990-2010		3,226	372	3,598		10,358	650	350	600	700	250	2,550
Buildout	16,140	21,671	7,785	29,456	3.00	83,950	6,000	12,000	20,250	6,000	250	44,500

Gunner Ranch West	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	1,135	38	0	38	3.00	127	0	0	0	0	0	0
2010	1,135	1,160	290	1,450	3.00	4,133	500	1,100	0	400	2,250	4,250
Increase, 1990-2010		1,122	290	1,412		4,006	500	1,100	0	400	2,250	4,250
Buildout	1,135	2,106	908	3,014	3.00	8,590	4,138	2,000	0	400	2,250	8,788

Remaining Uninc. Area	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	81,680	2,557	0	2,557	3.43	8,328	109	15	170	252	57	603
2010	81,680	4,727	0	4,727	3.00	13,472	900	275	600	600	200	2,575
Increase, 1990-2010		2,170	0	2,170		5,144	791	260	430	348	143	1,972
Buildout	81,680	5,954	0	5,954	3.00	16,969	3,976	1,049	12,621	1,712	200	19,558

Total South 41 Area	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	98,955	2,697	0	2,697	3.37	8,642	109	15	170	252	57	603
2010	98,955	9,215	662	9,877	3.00	28,149	2,050	1,725	1,200	1,700	2,450	9,375
Increase, 1990-2010		6,518	662	7,180		19,507	1,941	1,710	1,030	1,448	2,393	8,772
Buildout	98,955	29,731	8,693	38,424	3.00	109,508	14,114	15,049	32,871	8,112	2,700	72,846

TABLE 2-10

**DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT
NORTH 41 CORRIDOR AREA**

North 41 Corridor	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	189,782	6,878	581	7,459	2.25	15,910	686	714	439	346	681	2,866
2010	189,782	12,084	1,405	13,489	2.60	33,318	2,900	1,400	1,200	1,500	1,300	8,300
Increase, 1990-2010		5,206	824	6,030		17,408	2,214	686	761	1,154	619	5,434
Buildout	189,782	26,370	7,074	33,444	2.60	82,607	19,345	1,417	2,544	2,472	1,300	27,078

Notes:

SF DUs = Single family dwelling units

MF DUs = Multi-family dwelling units

PPH = Population per household

Pop = Population

A five percent residential vacancy is assumed

TABLE 2-11

**DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT
NORTH FORK/MILLERTON AREA**

North Fork/Millerton	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	112,903	907	85	992	2.44	2,304	56	23	0	16	491	586
2010	112,903	1,435	191	1,626	2.75	4,248	175	50	125	100	550	1,000
Increase, 1990-2010		528	106	634		1,944	119	27	125	84	59	414
Buildout	112,903	3,201	1,203	4,404	2.75	11,505	1,366	50	2,072	534	550	4,572

Notes:

SF DUs = Single family dwelling units

MF DUs = Multi-family dwelling units

PPH = Population per household

Pop = Population

A five percent residential vacancy rate is assumed

TABLE 2-12

**DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT
EAST AREA**

East/National Forest	Size (Acres)	Residential/Population					Employees					
		SF DUs	MF DUs	Total DUs	PPH	Pop	Retail	Office	Indust	Other	Gov/Ed	Total
1990	422,435	0	0	0	0.00	0	0	0	0	0	0	0
2010	422,435	400	0	400	0.00	0	0	0	0	0	0	0
Increase, 1990-2010		400	0	400		0	0	0	0	0	0	0
												0
Buildout	422,435	640	0	640	0.00	0	0	0	0	0	0	0

Notes:

SF DUs = Single family dwelling units

MF DUs = Multi-family dwelling units

PPH = Population per household

Pop = Population

All units are assumed to be second homes/vacation homes; no permanent population is associated with these units

TABLE 2-13

**SUMMARY OF MADERA COUNTY DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT**

No.	Geographic Analysis Area	Size (Ac)	Total in 1990					Total in 2010					Total at Buildout		
			Pop	DUs	HHs	PPH	Emp	Pop	DUs	HHs	PPH	Emp	Pop	DUs	Emp
1	West/Agriculture	272,388	7,903	2,288	2,174	3.64	2,972	11,743	3,396	3,226	3.64	3,400	16,031	4,636	9,666
2	Chowchilla/Fairmead														
	Incorporated Chowchilla	3,867	6,043	2,325	2,209	2.74	1,066	9,501	3,650	3,468	2.74	2,000	14,298	5,493	5,189
	Unincorp. Area	42,396	2,408	757	719	3.35	1,724	3,561	1,119	1,063	3.35	3,530	11,883	3,734	38,449
	Subtotal, Chow/Fair	46,263	8,451	3,082	2,928	2.89	2,790	13,062	4,769	4,531	2.89	5,530	26,181	9,227	43,638
3	Madera Area														
	Madera General Plan Area	18,988	36,588	11,730	11,144	3.28	13,699	63,323	20,830	19,789	3.20	29,220	120,445	39,620	98,556
	State Center CC Area	1,832	67	22	21	3.19	0	7,600	2,500	2,375	3.20	2,050	13,680	4,500	6,800
	Other unincorp. area	20,950	6,030	1,767	1,679	3.59	1,152	12,318	4,052	3,849	3.20	2,191	13,972	4,596	13,559
	Subtotal, Madera Area	41,770	42,685	13,519	12,843	3.32	14,851	83,241	27,382	26,013	3.20	33,461	148,097	48,716	118,915
4	Raymond/Central	189,403	2,204	763	725	3.04	352	3,613	1,251	1,188	3.04	800	19,430	6,728	3,267
5	South 41 Corridor														
	Rio Mesa	16,140	187	102	97	1.93	0	10,545	3,700	3,515	3.00	2,550	83,950	29,456	44,500
	Gunner Ranch West	1,135	127	38	36		0	4,133	1,450	1,378	3.00	4,250	8,590	3,014	8,788
	Remaining area	81,680	8,328	2,557	2,429	3.43	603	13,472	4,727	4,491	3.00	2,575	16,969	5,954	19,558
	Subtotal, South 41	98,955	8,642	2,697	2,562	3.37	603	28,149	9,877	9,383	3.00	9,375	109,509	38,424	72,846
6	North 41 Corridor	189,782	15,910	7,459	7,086	2.25	2,866	33,318	13,489	12,815	2.60	8,300	82,607	33,444	27,078
7	North Fork/Millerton	112,903	2,304	992	942	2.44	586	4,248	1,626	1,545	2.75	1,000	11,505	4,404	4,572
8	East/National Forest	422,435	0	0	0		0	**	400				**	640	0
	Other*						2,525								
	GRAND TOTAL	1,373,899	88,099	30,800	29,260	3.01	27,545	177,375	62,190	58,700	3.02	61,866	413,360	146,219	279,982

Notes:

Pop = Population

DUs = Dwelling units

HHs = Households (a five percent residential vacancy rate is assumed for all dwelling units)

PPH = Population per household

Emp = Employment

* "Other " includes seasonal, mobile agricultural employment that could not be allocated to any particular geographic area

** All units in the "East/National Forest" area are assumed to second homes/vacation homes

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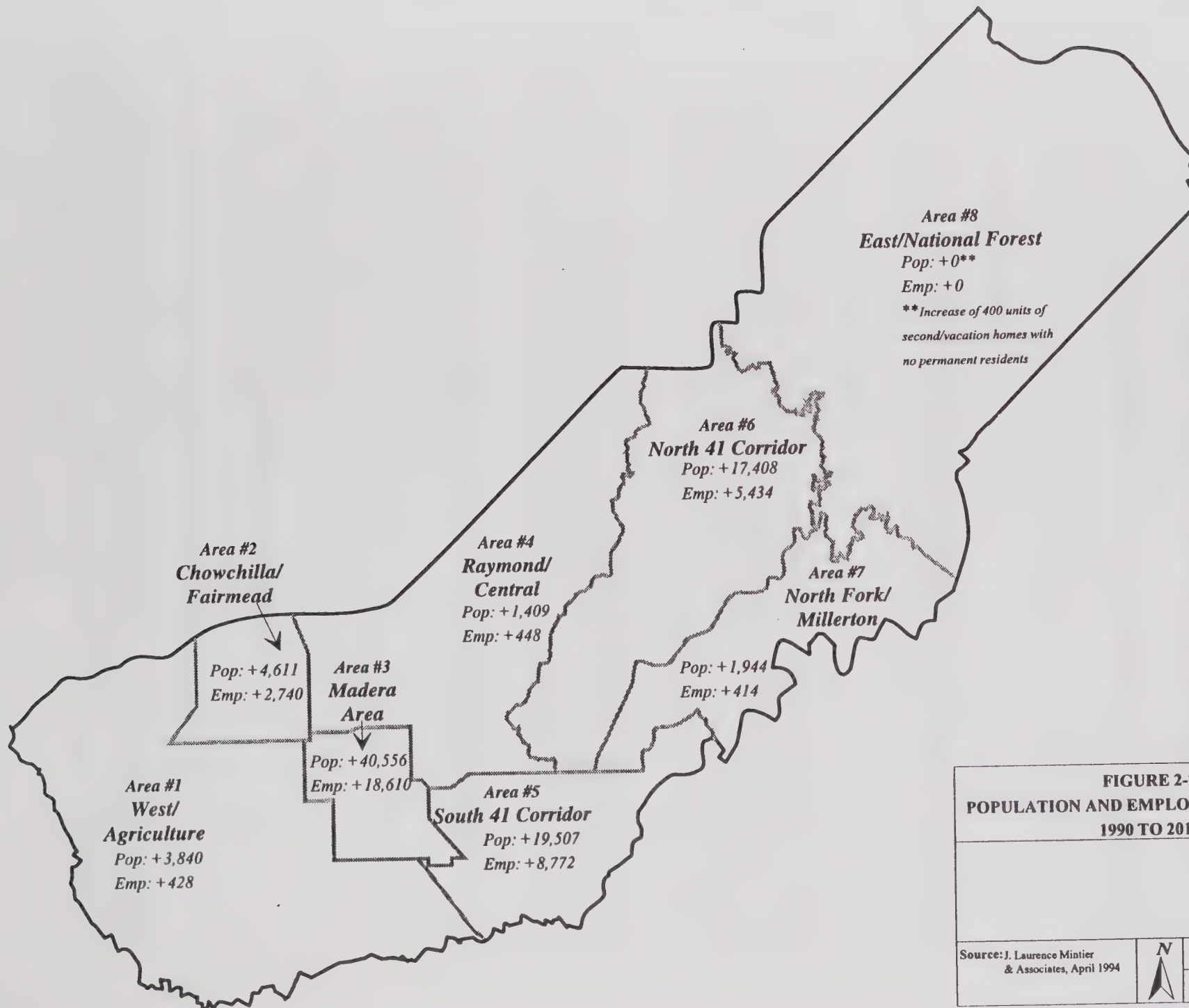


FIGURE 2-2
POPULATION AND EMPLOYMENT CHANGE
1990 TO 2010

Source: J. Laurence Mintier
& Associates, April 1994

Prepared by: J. Laurence
Mintier & Associates, April 1994

CHAPTER 3

LAND USE, HOUSING, AND POPULATION

This chapter discusses potential impacts of the Madera County *General Plan* associated with land use, housing, and population.

3.1 LAND USE

ENVIRONMENTAL SETTING

The setting for the land use section includes existing and planned land uses in Madera County. Existing land use and plans relevant to Madera County are described in Chapter 1 of the *Background Report* and are summarized below.

Existing County General Plan and Zoning

The analysis in this EIR is based on existing conditions when the *Draft General Plan* and *Draft EIR* were published in June and July 1994, respectively. Subsequently, the County adopted two area plans for the Gunner Ranch West and Rio Mesa areas, consistent with the provisions of a state General Plan time extension and consistent with the *Draft General Plan*. This analysis is based on the existing General Plan and its components as of June 1994, and therefore conditions prior to adoption of the Gunner Ranch West and Rio Mesa Area Plans.

The primary plan for land use in Madera County is the County's existing General Plan, which consists of several countywide elements and four area plans. The project analyzed in this *EIR* is a comprehensive update of all countywide elements of the plan except for the *Housing Element*, along with minor revisions to the four area plans to ensure consistency with the *General Plan*. The existing General Plan consists of the following elements and area plans:

- *Land Use Element, Transportation and Circulation Element, and Recreation Element* (1969)
- *Open Space and Conservation Element* (1972)
- *Safety Element* (1977)
- *Noise Element* (1978)
- Mineral Resources Section of the *Open Space and Conservation Element* (1987)
- *Housing Element* (1993)
- *North Fork Study Area Plan* (1980)
- *O'Neals Study Area Plan* (1980)
- *Oakhurst-Ahwahnee Area General Growth Management Plan* (1980)
- *Coarsegold Community Plan* (1982)

The General Plan is implemented in large part by the *Madera County Zoning Ordinance*.

Two new area plans were adopted after publication of the *Draft General Plan* published for public consideration. The *Gunner Ranch West Area Plan* was published in December 1993 and the *Rio Mesa Area Plan* was published in March 1994. A third new area plan, the *State Center Community College Area Plan*, is currently being prepared (as of May 1994).

City of Madera General Plan

The *City of Madera General Plan* was adopted in October 1992. The City's plan includes land uses for the City's General Plan Area, all of which is located within its sphere of influence.

City of Chowchilla General Plan

The *City of Chowchilla General Plan*, adopted in 1986, designates land use for all the city's sphere of influence. The City is in the process of updating the General Plan to cover a larger area; no plan has been published as of May 1994. This EIR analyzes the County's plan consistency with the City's *adopted* plan.

Airport Land Use Compatibility Plan

The Madera County Airport Land Use Commission adopted the *Airport Land Use Compatibility Plan* in November 1993. This plan addresses land uses around the county's two municipal airports.

San Joaquin River Parkway Plan

The *San Joaquin River Parkway Plan* was adopted by the San Joaquin River Parkway Task Force in March 1992. The governing entities of lands within the parkway area (Madera County, Fresno County, and the City of Fresno) have jurisdiction over this area. The newly created San Joaquin River Conservancy also provides for acquisition and management of the land in the proposed parkway.

Sierra National Forest Management Plan

The *Sierra National Forest Land and Resource Management Plan* provides for the long-term management of Sierra National Forest lands under the jurisdiction of the U.S. Forest Service.

Other City and County Plans

While not directly governing land use in Madera County, the plans of surrounding cities and counties can affect and be affected by land use in Madera County. Chapter 1 of the *Background Report* summarizes the plans for the nearby cities of Firebaugh, Clovis, and Fresno, and for the adjacent counties of Merced, Mariposa, and Fresno.

METHODOLOGY

This section describes the assumptions and thresholds of significance established to assess impacts resulting from adoption and implementation of the *General Plan*.

Assumptions

1. Development will occur consistent with the projections described in Chapter 2 of this *EIR*.
2. The County will adopt area plans for the three new growth areas allowing development in these areas to proceed.

Thresholds of Significance

According to Appendix G of the *CEQA Guidelines*, a project will normally have a significant effect on the environment if it will conflict with adopted environmental plans and goals of the community where it is located or if it would divide or disrupt the physical arrangement of an established community. For the purposes of this *EIR*, the *General Plan* is assumed to have a significant impact if it would do any of the following:

- Constitute a major change in planned land uses in the county
- Conflict with adopted plans governing land use in the county
- Divide or disrupt the physical arrangement of an established community.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

The *Land Use Diagram* designates land uses for all land in the unincorporated county which excludes the territory within the incorporated boundaries of the county's two cities. The rate at which vacant land within Madera County is developed with urban, suburban, and rural land uses designated by the *Land Use Diagram* will largely be determined by market forces. As described in Chapters 1 and 2, it is assumed that not all of the land designated for development on the *Land Use Diagram* will develop within the time frame of this EIR analysis (i.e., 2010).

Table 2-2 in Chapter 2 of this *EIR* lists the land use designations of the *General Plan* and summarizes the allowable uses and residential density and building intensity standards. Table 2-13 in Chapter 2 contains an estimate of total potential dwelling units and employment at 2010 and at buildout of the General Plan. Table 3-1 summarizes the acreage designated within each land use designation by geographic analysis area.

TABLE 3-1

MADERA COUNTY LAND USE DESIGNATIONS
By Geographic Analysis Area
(In Acres)

No.	Geographic Analysis Area	AE	A	AR	RR	VLDR	LDR	MDR	HDR	NC	CC	HSC	HC	PO	LI	III	PI	OS	NGA	Incorp. Madera	Incorp. Chowchilla	Total
1	West	262,235	9,083	0	74	89	97	0	14	31	17	164	25	0	21	127	49	5	0	366	0	272,233
2	Chowchilla/Fairmead																					0
	Incorporated Chowchilla*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,867	3,867
	Unincorp. area	30,191	2,732	3,059	842	535	185	107	10	3	170	109	0	0	118	2,219	1,479	319	0	0	0	41,969
	Subtotal, Chow/Fair	30,191	2,732	3,059	842	535	185	107	10	3	170	109	0	0	118	2,219	1,479	319	0	0	3,867	45,836
3	Madera Area																					0
	Madera General Plan Area**	319	2,770	0	0	213	770	78	51	5	13	0	32	10	640	638	385	714	0	8,786	0	18,988
	State Center CC Area	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,832	0	0	1,832
	Other unincorp. area	10,607	3,690	2,446	489	2,649	0	0	40	0	0	79	0	0	543	200	19	200	0	0	0	20,883
	Subtotal, Madera Area	21,533	10,150	4,892	978	5,511	770	78	131	5	13	158	32	10	1,726	1,038	423	1,114	1,832	8,786	0	62,586
4	Raymond/Central	157,800	11,273	23	11,635	179	31	0	40	14	44	0	15	0	24	85	21	8,282	0	0	0	189,466
5	South 41 Corridor Area																					0
	Rio Mesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16,140	***	0	16,140
	Gunner Ranch West	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,135	***	0	1,135
	Reinaining area	65,677	5,000	252	6,738	2,189	109	0	0	72	125	68	4	53	493	462	39	403	0	0	0	81,616
	Subtotal, South 41	65,677	5,000	252	6,738	2,189	109	0	0	72	125	68	4	53	493	462	39	403	17,275	0	0	98,891
6	North 41	84,562	4,246	6,226	39,648	7,884	1,473	8	393	80	897	87	2	21	170	0	624	43,446	0	0	0	189,680
7	North Fork/Millerton	62,339	0	1,765	7,566	159	37	0	65	23	46	0	27	0	20	137	81	40,610	33	0	0	112,908
8	East/National Forest	5,130	40	440	498	380	9	0	0	0	0	0	0	0	0	0	0	415,938	0	0	0	422,435
	GRAND TOTAL	689,467	42,524	16,657	67,979	16,926	2,711	193	653	228	1,312	586	105	84	2,572	4,068	2,716	510,117	19,140	9,152	3,867	1,394,035

Notes:

*1993 Chowchilla city limits

**Does not include summary of designations within the City of Madera General Plan Area where development numbers were included in the City's traffic model

***Area plans were adopted for the Rio Mesa and Gunner Ranch West areas in March 1995 and December 1994, respectively

This section discusses the implications of the *Land Use Diagram* in three sections that correspond with the three thresholds of significance listed above: 1) alterations in planned land use; 2) consistency with adopted plans; and 3) effect on physical arrangements of established communities.

Alterations in Planned Land Use

The project analyzed in this *EIR* is a comprehensive revision of the Madera County General Plan. As would be expected, the *Land Use Diagram* proposes changes in planned land uses from the current plan. In addition, the *General Plan* seeks to resolve inconsistencies between existing land uses, zoning, and existing general plan designations.

The *General Plan* establishes a revised set of land use designations which consolidates and expands upon the County's and cities' existing designations and includes definitions of allowable uses and density and intensity standards. In most cases, the *Land Use Diagram* merely replaces existing land use designations directly with new designations, resulting in no substantive changes in planned land uses. Table 3-2 indicates how the existing general plan designations correspond to the new designations. In the following cases, however, planned land uses under the existing General Plan would be changed by the *General Plan*:

1. In areas where existing land uses and zoning do not correspond to the current land use designations, the land use designations would be changed to reflect existing land uses (e.g., the Fairmead Landfill, the Central California Women's Facility, some approved residential subdivisions, Berenda Industrial area).
2. In areas where currently planned land uses do not conform to the existing land use designations, the land use designations would be changed to reflect the planned land uses (e.g., some unincorporated areas within the City of Madera General Plan Area and City of Chowchilla sphere of influence, planned expansion of the Central California Women's facility)
3. Three new growth areas are provided for in areas currently designated and zoned for agricultural uses which are the subject of major planning efforts to provide for new urban and suburban development (i.e., Rio Mesa, Gunner Ranch West, State Center Community College Area).

Adoption of the revised General Plan with the new set of land use designations will serve to more strictly define the types and densities of allowable uses, thus providing a clearer general plan vision of the kinds of uses that may occur in the future. Land use designations that more specifically indicate allowable uses and permitted densities will reduce the potential for land use conflicts between incompatible land uses, and will allow the County to better plan for required infrastructure and services.

Many of the proposed changes to the Land Use Diagram bring the General Plan into conformance with existing or planned land uses. In a few areas, however, the designations may further restrict or grant new development potential. The two primary areas of changes are reduced development potential on agricultural and grazing lands and new development potential in new growth areas.

TABLE 3-2

GENERAL PLAN DESIGNATION CORRESPONDENCE**Existing General Plan, City of Madera General Plan, City of Chowchilla General Plan**

Madera County General Plan Land Use Designation	Corresponding Existing Madera County General Plan Designation	Corresponding City of Madera General Plan Designation	Corresponding City of Chowchilla General Plan Designation
Agriculture Exclusive (AE)	RM-20 AF (parcels > 36 ac) AG RCA I/A RDA in O'Neals Area (where underlying zoning is ARF/ARE-40)	Resource Conservation, Open Space, and Recreation	Agricultural Open Space Agricultural and Rural Uses
Agriculture (A)	RM-20 AF (parcels > 10 ac) RDA (where underlying zoning is ARF/ARE-40)	Resource Conservation, Open Space, and Recreation Residential Reserve	Agricultural Open Space Agricultural and Rural Uses Urban Reserve
Open Space (OS)	OS RCA (where publicly-owned land) AF in Coarsegold Area where publicly-owned land	Resource Conservation, Open Space, and Recreation	
Agricultural Residential (AR)	AF		
Rural Estate Residential (RER)	Not applied to Land Use Diagram		
Rural Residential (RR)	RDA (North Fork Area) RM-10 RM-5 RMM RMS SF-2½ AF (RM zoning) in Coarsegold Area MS		
Very Low Density Residential (VLDR)	SF-1 SF-2	Very Low Density (0.5-1.5 du/ac)	
Low Density Residential (LDR)	RUS	Low Density (2.0-5.5 du/ac)	Low Density Residential (3.0-6.0 du/ac) Medium Density Residential (3.0-7.0 du/ac)
Medium Density Residential (MDR)		Medium Density (6.0-12.0 du/ac)	Medium-High Density Residential (3.0-11.0 du/ac)
High Density Residential (HDR)	RUM	High Density (12.0-19.0 du/ac)	High Density Residential (? -22.0 du/ac)

TABLE 3-2 (Continued)

GENERAL PLAN DESIGNATION CORRESPONDENCE**Existing General Plan, City of Madera General Plan, City of Chowchilla General Plan**

Madera County General Plan Land Use Designation	Corresponding Existing Madera County General Plan Designation	Corresponding City of Madera General Plan Designation	Corresponding City of Chowchilla General Plan Designation
Neighborhood Commercial (NC)	CL	Neighborhood Commercial (FAR 0.35)	Community Commercial
Community Commercial (CC)	CM	Central Commercial (FAR 0.35, 1.0) Regional Commercial (FAR 0.40)	Central Business Commercial
Highway Service Commercial (HSC)	CH	Highway Commercial (FAR 0.60)	Service Commercial
Heavy Commercial (HC)	CG	Service Commercial (FAR 0.60)	
Professional Office (PO)		Professional Office (FAR 0.65)	
Transit-oriented Commercial (TOC)			
Mixed Use Core (MUC)		Central Commercial Mixed Use	
Light Industrial/ Business Park (LI)	IL	Industrial (FAR 0.50)	Light Industrial
Heavy Industrial (HI)	IH	Industrial (FAR 0.50)	Heavy Industrial
Public Institutional (PI)	IA	Community Facilities Other Public and Semi-Public	Public Land Uses
Note: This table provides a general indicator only; for land use designations for specific properties, contact Madera County Planning Department			

Agricultural and Grazing Lands

A primary goal of the *General Plan* is to preserve and protect the county's agricultural lands. This goal is carried out by both the designations on the *Land Use Diagram* and the policies and implementation programs of the *Policy Document*. The revised designations strengthen existing General Plan policies in the 1969 *Land Use Element* and the 1972 *Open Space and Conservation Element* that call for the protection of agricultural lands and provision of large-lot agricultural and rangeland uses.

The existing 1969 General Plan includes several designations that allow for intensive agricultural uses: Agriculture, Foothill Agriculture, and Rural Mountain (AF) are the most widely applied; Agriculture Preserve (AG) is applied to agricultural lands under Williamson Act contract in the Oakhurst-Ahwahnee Area; Agricultural, Industrial (A/I) is used on a very limited basis; and Resource Conservation Area (RCA) used in the North Forks and O'Neals Areas is applied to agricultural and other open space lands.

These existing designations do not include minimum density standards or allowable uses; density and uses are therefore generally determined by underlying zoning. In the foothills and mountain areas, in many cases, the zoning is broad enough to permit an extremely wide range of uses and lot sizes.

The *General Plan* includes two agricultural designations: Agriculture Exclusive (AE) and Agriculture (A). The *Policy Document* includes the full definition of allowable uses and density and intensity standards. The AE designation allows a minimum parcel size of 36 acres and the A designation has a minimum parcel size of 18 acres. The designations are, in part, intended to prevent future division of agricultural lands into smaller parcels that could make agricultural production less viable.

Land under Williamson Act contract, land surrounded by Williamson Act lands, and agricultural areas where the parcel sizes are generally 40 acres or larger would generally be designated AE in the *Land Use Diagram*.

Areas nearer the cities zoned for 18-acre minimum lots were designated A. In many cases, land designated AE on the *Land Use Diagram* has underlying zoning that would permit a minimum lot size of 18 acres, although in most instances the current parcel sizes are much larger than the 36-acre minimum permitted by the AE designation. The implication of these designations is that rezoning will be required for much of the area to ensure consistency with the new General Plan.

Much of the zoning in the foothill and mountain areas specifies no restrictive minimum parcel size, allowing land to be divided into parcels too small for viable agricultural and grazing operations. The more restrictive AE and A designations in the new General Plan would protect and preserve this agricultural land. More restrictive zoning limitations may also be required in these areas after adoption of the revised General Plan.

New Growth Areas

One of the most important implications of the *Land Use Diagram* is that it would alter the land use patterns in some areas of the county by providing for three significant new growth areas (Rio Mesa, Gunner Ranch West, and State Center Community College) on land currently designated and zoned for large-parcel agricultural uses. Areas without adopted areas plans are designated "New Growth Area" on the *Land Use Diagram* to indicate that an area plan will be required to determine the appropriate mix of land uses, circulation system, infrastructure, and institutional framework necessary to support the level of development anticipated.

Table 2-13 summarizes buildout of the new growth areas identified in the *Policy Document* and development levels by 2010. As Table 2-13 illustrates, if all of the these new growth areas develop to the maximum densities and intensities described in the *Policy Document*, there would be a substantial increase in the number of dwellings and amount of non-residential development, particularly in the southern part of the county.

Consistency with Adopted Plans

City of Madera General Plan

The *Land Use Diagram* was specifically designed to ensure consistency with the City of Madera's Land Use Diagram for the unincorporated part of the City's General Plan Area. Table 3-2 shows how the County's land use designations correspond to the City's designations. Land designated for residential reserve in the City of Madera's Plan, however, was given an Agriculture (A) designation in the County Plan.

The eastern part of the State Center Community College Area (approximately 305 acres) is located within the City of Madera's General Plan Area. The City's plan designates this area as industrial reserve. The preliminary conceptual plan for the State Center Community College designates this area for industrial, highway commercial, and research and development uses, which are generally consistent with the industrial reserve designation.

The *City of Madera General Plan* also includes policies regarding the proposed State Center Community College, currently part of an ongoing study area plan by Madera County. The *City of Madera General Plan* states the City's support for the proposed location of the new community college, and suggests actions to amend the City's sphere of influence to include this area.

City of Chowchilla General Plan

The *Land Use Diagram* was specifically designed to ensure consistency with the City of Chowchilla's Land Use Diagram for the unincorporated part of the City's General Plan Area. Table 3-2 shows how the County's land use designations correspond to the City's designations.

The City of Chowchilla is in the process of updating its General Plan. After City adoption of the revised plan and consideration of any changes to the City's sphere of influence by the Madera County Local Agency Formation Commission (LAFCO), the County may consider corresponding changes to the County General Plan Land Use Diagram as it deems appropriate.

Airport Land Use Compatibility Plan

Land uses in the *Land Use Diagram* are consistent with the density and use limitations included in the *Airport Land Use Compatibility Plan* for areas outside the city limits of Chowchilla and Madera. Specific development proposals should be reviewed to ensure continued consistency.

San Joaquin River Parkway Plan

The *San Joaquin River Parkway Plan* proposes policies for approximately 1,900 acres of land in Madera County in the South 41 Corridor area. Much of this land is within the Rio Mesa new growth area and is under private ownership. Consistency of the land uses in the Rio Mesa new growth area with the goals and policies of the *San Joaquin River Parkway Plan* depends to a great extent on the manner in which development is approved within the Rio Mesa new growth area.

Outside the Rio Mesa new growth area, the San Joaquin River area is generally designated for agricultural uses, providing greater opportunity for development of the parkway consistent with the goals of the *San Joaquin River Parkway Plan*.

Sierra National Forest Management Plan

The *Land Use Diagram* designates land within the national forest as Open Space, allowing for uses consistent with those proposed by the *Sierra National Forest Land and Resource Management Plan*. Private inholdings within the forest boundaries are designated Agriculture Exclusive (AE), except where already developed or approved for development for other uses. Designation of private inholdings with the restrictive AE designation ensures that private land within the forest boundaries will not develop in a manner that creates conflicts with adjacent forest uses.

Other City and County General Plans Outside Madera County

The *Land Use Diagram* proposes no substantial changes in the planned land uses in the northern, eastern, and westernmost parts of Madera County, with the exception of creating a more restrictive agricultural designation, as described previously. The *Land Use Diagram* therefore has no direct effects on the plans for Merced County, Mariposa County, Mono County, or the City of Firebaugh.

The most significant change that might affect or be affected by plans in adjacent areas is the designation of two new growth areas in southern Madera County, immediately north of Fresno County. The *Fresno County General Plan* generally reflects the land uses and policies of the *City of Fresno General Plan* within the city's sphere of influence. This analysis therefore focuses on the implications for the *City of Fresno General Plan*, most notably the *Woodward Park Community Plan* and *Bullard Community Plan*.

The *Woodward Park Community Plan*, adopted in December 1989, covers the area on the east side of State Route 41, south of the San Joaquin River and north of Herndon Avenue. The plan promotes development of an "activity center" to be located adjacent to the Route 41 interchange at Friant Road and Nees Avenue; this activity center would accommodate intensive residential, office, and commercial development, and would ultimately include a regional mall. The plan also promotes the preservation and use of the San Joaquin River, and supports the development of a public transit system within the Route 41 corridor.

The *Bullard Community Plan* addresses land use in northwest Fresno, west of Route 41. The *Bullard Community Plan* establishes a mid-rise/high-rise corridor along Route 41 to accommodate commercial buildings over four stories in height and supports the *San Joaquin River Parkway Plan*.

These community plans promote urban development in northern Fresno along the State Route 41 Corridor. Given the designation of the major new growth areas in the South 41 Corridor area of Madera County, development according to the *Land Use Diagram* in southern Madera County would extend this growth pattern.

The City of Clovis' General Plan proposes conceptually a beltway that would link Clovis to State Highway 99 to the north and south. The northern connection would cross the San Joaquin River into Madera County, intersect with Route 41, and travel east to connect to Highway 99 south of Madera. In Fresno County, the beltway would intersect proposed Routes 168 and 180 and then travel north to connect to Highway 99 between Selma and Kingsburg. The *Madera County Circulation Plan Diagram* does not include this proposed roadway because traffic modeling did not indicate that this roadway would assist in addressing traffic from existing and proposed development in Madera County.

Effects on Existing Communities

The *Land Use Diagram* includes no potential disruptions to existing communities, in that it reflects historically planned land uses and adopted County area plans and City general plans.

GENERAL PLAN POLICY RESPONSE

Several provisions of the *General Plan Policy Document*, as well as the County's ongoing implementation of ordinances regulating development activity, address the implications of the *Land Use Diagram*.

The General Plan and the County's development review and approval process generally seek to locate land uses adjacent to one another that are compatible, related, and mutually supported. The *General Plan* includes

numerous policies and programs that address land use, including the types and quality of development, its design, location, supporting infrastructure and facilities, visual and scenic and environmental implications.

The following General Plan policies and programs, contained in the *Policy Document*, address the implications of the *Land Use Diagram*.

General Land Use Policies

- 1.A.1. The County shall promote the efficient use of land and natural resources.*
- 1.A.2. The County shall designate sufficient land to accommodate projected population and employment growth in Madera County.*
- 1.A.3. New development should be centered in existing communities and designated new growth areas.*
- 1.A.4. The County shall encourage infill development and development contiguous to existing cities and unincorporated communities to minimize premature conversion of agricultural land and other open space lands.*
- 1.A.5. The County shall permit only low-intensity forms of development in areas with sensitive environmental resources or where natural or human-caused hazards are likely to pose a significant threat to health, safety, or property.*
- 1.A.6. The County shall promote patterns of development that facilitate the efficient and timely provision of infrastructure and services.*
- 1.A.7. The County shall address local land use and public facility issues of existing and new unincorporated communities through the preparation and adoption of area plans.*
- 1.A.8. The County shall require that new rural and suburban development be designed to preserve and maintain the rural character and quality of the county.*
- 1.A.9. New residential development in the North Fork and O'Neals Areas shall be limited to three-acre-lot minimums unless served by community water or sewer systems.*

Programs

- 1.1. The County shall initiate updates of existing area plans and preparation of new area plans to address local planning and public facility issues surrounding existing communities. Existing area plans to be updated include the following:*
 - a. Oakhurst-Ahwahnee Area*
 - b. Coarsegold Area*
 - c. North Fork Area*
 - d. O'Neals Area*

New area plans may be adopted for the following planning areas:

- e. Madera Ranchos-Bonadelle Ranchos Area*
- f. Raymond Area*
- g. Fairmead Area*

The County shall review the planning issues in each planning area and determine a schedule and priority for preparing and/or updating each area plan. Area plans should generally follow the boundaries shown in Figure 1-1 (of the Policy Document). Adjustments to planning area boundaries can be made based upon needs and constraints identified during the preparation and/or update of each area plan.

- 1.2. The County shall amend the Zoning Ordinance to establish a new residential zone with a 3-acre-minimum lot size to be applied in the North Fork and O'Neals Areas.*
- 1.3. The County, in cooperation with the cities of Madera and Chowchilla, shall examine existing and proposed land uses within the unincorporated spheres of influence of the two cities to identify appropriate land use designation changes as appropriate to reflect existing land uses. The County and cities shall also identify issues of joint concern and appropriate criteria for the timing of annexations of prime farmland.*

These general land use policies encourage development to occur where services can be efficiently provided, where sensitive environmental resources will not be adversely affected, and where natural and human-caused hazards will not pose a significant threat to health, safety, or property. These policies and programs also provide for updating of existing area plans and development of new area plans to review local planning and environmental issues and working with cities to coordinate land use designations.

New Growth Area Policies

- 1.B.1. The County shall require that designated new growth areas be comprehensively planned as single units rather than as individual property ownerships. Each designated new growth area shall be developed according to an adopted area plan. New growth areas include Gunner Ranch West Area, Rio Mesa Area, and State Center Community College Area.*
- 1.B.2. The County shall require that the planning and design of new growth areas carries out the following objectives:*
 - a. Concentrate higher-density residential uses and appropriate support services along segments of the transportation system with good road and possible transit connections to the remainder of the region;*
 - b. Support concentrations of medium and high-density residential uses and higher intensities of non-residential uses near existing or future transit stops along trunk lines of major transportation systems;*
 - c. Support the development of integrated mixed-use areas by mixing residential, retail, office, open space, and public uses while making it possible to travel by transit, bicycle, or foot, as well as by automobile; and*
 - d. Provide buffers between residential and incompatible non-residential land uses.*

Programs

- 1.4. *The County shall review and adopt an area plan for the State Center Community College new growth area that meets the goals and policies of the General Plan, provide for adequate infrastructure and public facilities and services, provides for design guidelines for new development, and addresses the environmental impacts of such development.*

These policies and programs provide for the development of new area plans for new growth areas that provide for land use patterns that promote the use of transit and other non-automobile forms of transportation, and provide for buffers between incompatible land uses, include infrastructure plans, and address environmental impacts.

Residential Land Use Policies

- 1.C.1. *The County shall maintain an adequate supply of residential land in appropriate land use designations and zoning categories to accommodate projected household growth, maintain normal vacancy rates, and minimize residential land costs.*
- 1.C.2. *The County shall promote the development of higher-density residential development along major transportation corridors and transit routes.*
- 1.C.3. *The County shall promote the development of affordable housing in areas served by adequate public facilities and services.*
- 1.C.4. *The County shall encourage the concentration of multi-family housing in and near downtowns, major commercial areas, community and village cores, and neighborhood commercial centers.*
- 1.C.5. *The County shall encourage the planning and design of new residential subdivisions to emulate the best characteristics (e.g., form, scale, and general character) of existing, nearby neighborhoods.*
- 1.C.6. *The County shall ensure that residential land uses are separated and buffered from such major facilities as landfills, airports, and sewage treatment plants.*
- 1.C.7. *The County shall require residential project design to reflect and consider natural features, noise exposure of residents, circulation, access, and the relationship of the project to surrounding uses. Residential densities and lot patterns will be determined by these and other factors. As a result, the maximum density specified by General Plan designations or zoning for a given parcel of land may not be realized.*
- 1.C.8. *The County shall require residential subdivisions to be designed to provide well-connected internal and external street, bikeway, and pedestrian systems.*

Programs

- 1.5. *The County shall monitor the supply of available land for residential and nonresidential development to identify any excesses or deficiencies in any type or density of land use designation. If any such imbalance exists, the County shall initiate General Plan amendments to address it.*

These policies provide for new residential development in a range of residential densities to meet the needs of all income groups. The policies also ensure that new residential development minimizes its effect on adjoining land uses and that new residential development occurs where adequate services are available.

Commercial Land Use Policies

- 1.D.1. The County shall require that new community commercial centers locate adjacent to major activity nodes and major transportation corridors.*
- 1.D.2. The County shall encourage existing and new commercial centers to provide a variety of goods and services, both public and private.*
- 1.D.3. The County shall promote new commercial development that is designed to encourage and facilitate pedestrian circulation within and between commercial sites and nearby residential areas rather than being designed only to serve vehicular circulation.*
- 1.D.4. The County shall promote new commercial development in rural communities that provides for the immediate needs of the local residents and services to tourists and travelers. The scale and character of such commercial development should be compatible with and complement the surrounding area.*
- 1.D.5. The County shall encourage significant new office developments to locate near major transportation corridors and concentrations of residential uses. New office development may serve as buffers between residential uses and higher-intensity commercial uses.*

Programs

- 1.6. The County shall review the location and amount of land zoned for commercial uses in residential areas. The County shall initiate redesignation and rezoning to address excesses, deficiencies, or inappropriately-located commercial land.*

These policies promote new commercial development to meet the needs of Madera County residents and visitors and to maintain economic vitality, while providing that such development is designed to facilitate pedestrian circulation and occurs where it minimizes its effect on adjoining land uses.

Industrial Land Use Policies

- 1.E.1. The County shall promote new industrial development that has the following characteristics:*
 - a. Adequate infrastructure and services;*
 - b. Convenient connections to the regional transportation network, including connections to existing transit and other non-automobile transportation;*
 - c. Sufficient buffering from residential areas to avoid impacts associated with noise, odors and the potential release of hazardous materials;*
 - d. Mitigable environmental impacts; and*
 - e. Minimal adverse effects on scenic routes, recreation areas, and public vistas.*
- 1.E.2. The County shall designate specific areas suitable for industrial development and reserve such lands in a range of parcel sizes to accommodate a variety of industrial uses.*

These policies provide that adequate industrial land is available in the county and that new industrial development occurs where there are adequate infrastructure and services and ensures that new development minimizes its impacts on adjoining land uses, and has mitigable environmental impacts.

Jobs-Housing Balance Policies

- 1.F.1. The County shall concentrate most new growth within existing communities and designated new growth areas and shall emphasize infill development, intensified use of existing development, and expanded services so individual communities become more complete, diverse, and balanced.*
- 1.F.2. The County shall designate and encourage the development of employment-generating uses in appropriate areas near existing and designated residential development.*

Programs

- 1.10. The County shall establish and maintain a program to monitor the jobs-housing balance in Madera County.*

These policies encourage new development to concentrate in existing developed areas to reduce the impacts associated with commuting to jobs outside a community. By encouraging development in existing communities and new growth areas, these policies will also help minimize the pressure to convert agricultural and open space lands outside these areas.

Public and Quasi-Public Facilities Policies

- 1.G.1. The County will encourage the clustering of public and quasi-public facilities such as schools, parks, child care facilities, and community activity centers. Joint use of public facilities shall be promoted and agreements for sharing costs and operational responsibilities among public service providers shall be encouraged.*
- 1.G.2. The County shall require public facilities, such as wells, pumps, tanks, and yards, to be located and designed so that noise, light, odors, and appearance do not adversely affect nearby land uses.*
- 1.G.3. The County shall encourage the maintenance and expansion of hospital and medical facilities to meet the needs of Madera County residents, employees, and visitors.*
- 1.G.4. The County shall encourage new regional facilities (e.g., stadiums, schools) to locate within urban cores of communities, provide adequate on-site parking, and to use materials and methods of construction that are reflective of the community in which they are located and exhibit continuity of history and culture, as symbols of local character and community identity.*

These policies promote clustering and joint use of facilities, requires that public facilities be located and designed to minimize impacts on adjoining land uses, and promotes locating regional facilities within urban core areas.

Visual and Scenic Resources Policies

- 1.H.1. The County shall require that new development in scenic rural areas is planned and designed to avoid locating structures along ridgelines, on steep slopes, or in other highly-visible locations, except under the following conditions:*
- a. Such a location is necessary to avoid hazards; or*
 - b. The proposed construction will incorporate design and screening measures to minimize the visibility of structures and graded areas.*
- 1.H.2. The County shall require that new development incorporates sound soil conservation practices and minimizes land alterations.*
- 1.H.3. The County shall require that new development on hillsides employ design, construction, and maintenance techniques that:*
- a. Preserve and enhance the hillsides;*
 - b. Ensure that development near or on portions of hillsides do not cause or worsen natural hazards such as erosion, sedimentation, fire, or water quality concerns;*
 - c. Include erosion and sediment control measures including temporary vegetation sufficient to stabilize disturbed areas;*
 - d. Minimize risk to life and property from slope failure, landslides, and flooding; and*
 - e. Maintain the character and visual quality of the hillside.*
- 1.H.4. The County shall work with federal and state agencies to conserve forest wilderness and recreation areas.*

These policies seek to preserve the County's scenic qualities and resources through limiting development on ridgelines, steep slopes, and hillsides, and generally by minimizing land alternations.

Scenic Routes Policies

- 1.I.1. The County shall designate scenic routes within the county in order to preserve outstanding scenic quality within different geographic settings.*
- 1.I.2. The County shall encourage the provision of public access to significant natural and cultural resources and scenic vistas through scenic routes, scenic highways, and scenic byways.*
- 1.I.3. The County shall protect and enhance scenic corridors through such means as design review, sign control, undergrounding utilities, scenic setbacks, density limitations, planned unit developments, grading and tree removal standards, open space easements, and land conservation contracts.*
- 1.I.4. The County shall coordinate scenic route programs among local, regional, and state jurisdictions, recognizing that scenic routes are a resource of more than local importance.*

Programs

- 1.II. The County shall identify routes of scenic eligibility and formally designate and adopt a system of scenic routes. The County shall work with Caltrans in identifying highways of scenic eligibility.*

- 1.12. *The County shall review the standards and requirements of the Scenic Overlay Zone of the Zoning Ordinance and make necessary revisions.*

These policies and programs provide for the designations and preservation of scenic routes in Madera County.

Interjurisdictional Coordination Policies

- 1.J.1. *The County will coordinate land use, infrastructure, and public facility planning with cities in the county, regional planning agencies, neighboring jurisdictions, and state and federal agencies, and shall comment on land use and transportation plans concerning Madera County.*
- 1.J.2. *The County shall inform cities in a timely manner when applications for development within their spheres of influence are filed with the County and shall consider the city's ultimate plans for the relevant area during project review.*
- 1.J.3. *The County shall coordinate its policies regarding conversion of agricultural lands with the County Local Agency Formation Commission (LAFCO) and the Cities of Madera and Chowchilla.*

These policies provide for cooperation and coordination on issues that affect more than one jurisdiction.

Agricultural Land Use/Land Use Conflict Policies

- 5.A.1. *The County shall maintain agriculturally-designated areas for agricultural uses and direct urban uses to designated new growth areas, existing communities, and/or cities.*
- 5.A.2. *The County shall discourage the conversion of prime agricultural land to urban uses unless an immediate and clear need can be demonstrated that indicates a lack of land for non-agricultural uses.*
- 5.A.3. *The County shall seek to ensure that new development and public works projects do not encourage further expansion of urban uses into designated agricultural areas.*
- 5.A.4. *The County will maintain large-parcel agricultural zoning and prohibit the subdivision of agricultural lands into parcels smaller than permitted by the zoning.*
- 5.A.5. *The County shall allow the conversion of existing agricultural land to urban uses only within designated urban and rural residential areas, new growth areas, and within city spheres of influence where designated for urban development on the General Plan Land Use Diagram.*
- 5.A.6. *The County shall encourage continued and, where possible, increased agricultural activities on lands designated for agricultural uses.*
- 5.A.7. *The County shall encourage agricultural soil conservation practices such as crop rotation, cover crops, and coordinated discing times to reduce wind erosion. The County shall also encourage farmers and ranchers to develop farm or ranch plans with the appropriate U.S. Soil Conservation Service district office.*

- 5.A.8. *The County shall encourage land improvement programs to increase soil productivity in those agriculturally-designated areas containing lesser quality soils.*
- 5.A.9. *The County shall encourage infill development in urban areas as an alternative to expanding urban boundaries into agriculturally-designated areas.*
- 5.A.10. *The County shall support merging or reversion to acreage of substandard lots in "paper subdivisions" in agriculturally-designated areas under the same ownership and not being used as separate parcels.*
- 5.A.11. *The County shall facilitate agricultural production by allowing agricultural service uses (i.e., commercial and industrial uses) to locate in agriculturally-designated areas if they relate to the primary agricultural activity in the area. The County shall use the following guidelines to analyze the suitability of a proposed agricultural service use:*
- a. The use will not adversely affect agricultural production in the area;*
 - b. The use supports local agricultural production; and*
 - c. It is compatible with existing agricultural activities and residential uses in the area.*
- 5.A.12. *The County shall actively encourage enrollments of agricultural lands in its Williamson Act program, particularly on the edges of new growth areas.*
- 5.A.13. *The County shall require development within or adjacent to designated agricultural areas to incorporate design, construction, and maintenance techniques that protect agriculture and minimize conflicts with adjacent agricultural uses.*
- 5.A.14. *The County shall continue to enforce the provisions of its Right-to-Farm Ordinance and of the existing state nuisance law.*
- 5.A.15. *The County shall encourage educational programs to inform Madera County residents of the importance of protecting farmland.*

These policies seek to preserve viable agricultural operations outside of designated new growth areas by maintaining large parcel sizes and providing that adjoining land uses minimize impacts on agriculture.

Forest Resources Policies

- 5.B.1. *The County shall encourage the sustained productive use of forest land as a means of providing open space and conserving other natural resources.*
- 5.B.2. *The County shall discourage development that conflicts with timberland management.*
- 5.B.3. *The County shall work closely and coordinate with agencies involved in the regulation of timber harvest operations to ensure that County conservation goals are achieved.*
- 5.B.4. *The County shall encourage qualified landowners to enroll in the Timberland Production Zone (TPZ) program.*
- 5.B.5. *The County shall encourage and promote the productive use of wood waste generated in the county.*

5.B.6. The County shall encourage and support conservation programs to reforest private timberlands.

These policies encourage the preservation and continued production of forest resources.

Open Space for the Preservation of Natural Resources Policies

5.H.1. The County shall support the preservation and enhancement of natural land forms, natural vegetation, and natural resources as open space. To the extent feasible, the County shall permanently protect as open space areas of natural resource value, including wetlands preserves, riparian corridors, woodlands, and floodplains.

5.H.2. The County shall require that new development be designed and constructed to preserve the following types of areas and features as open space to the maximum extent feasible:

- a. High erosion hazard areas;*
- b. Scenic and trail corridors;*
- c. Streams and streamside vegetation;*
- d. Wetlands;*
- e. Other significant stands of vegetation;*
- f. Wildlife corridors; and*
- g. Any areas of special ecological significance.*

5.H.3. The County shall support the maintenance of open space and natural areas that are interconnected and of sufficient size to protect biodiversity, accommodate wildlife movement, and sustain ecosystems.

5.H.4. Recognizing the importance of both public and privately-owned open space, the County shall encourage both private and public ownership and maintenance of open space.

5.H.5. The County shall require that significant natural, open space, and cultural resources be identified in advance of development and incorporated into site-specific development project design.

These policies, along with the policies under 5.C., 5.D., 5.E., and 5.F., call for the protection of significant natural resource areas.

Mineral Resources Policies

5.I.1. The County shall require new mining operations to be designed to provide a buffer between existing or likely adjacent uses, minimize incompatibility with nearby uses, and adequately mitigate their environmental and aesthetic impacts. The buffer area shall be zoned Agricultural, Rural, Exclusive-20 Acre or -40 Acre (ARE-20 and ARE-40) .

5.I.2. The County shall discourage the development of incompatible land uses in areas that have been identified as having potentially significant mineral resources, except where the California Department of Mines and Geology agrees that economic or environmental considerations make mineral extraction infeasible.

5.I.3. The County shall discourage the development of any uses that would be incompatible with adjacent mining operations or would restrict future extraction of significant mineral resources.

- 5.I.4. *The County shall require that new non-mining land uses adjacent to existing mining operations be designed to provide a buffer between the new development and the mining operations.*
- 5.I.5. *The County shall coordinate its mineral extraction policies and regulations with Fresno County, the City of Fresno, and Merced County. The County shall refer applications for mining operations in locations near or adjacent to a city or another county to the affected city or county for review and comment.*
- 5.I.6. *The County shall require that all mining operations prepare and implement mining plans and reclamation plans that mitigate environmental impacts and incorporate adequate security to guarantee proposed reclamation.*

These policies require that new mining operations minimize impacts on adjoining land uses, adequately mitigate their environmental and aesthetic impacts, and provide for reclamation of the land, and the policies protect existing mining operations and potential mineral resources from incompatible new development, except in specified circumstances.

San Joaquin River Parkway Policies

- 4.A.3. *The County shall support and participate in the development of the San Joaquin River Parkway.*
- 4.C.3. *The County shall promote the development of a public trail system in connection with development of the San Joaquin River Parkway.*
- 5.C.8. *The County shall support the policies of the San Joaquin River Parkway Plan to protect the San Joaquin River as an aquatic habitat and a water source.*
- 5.D.8. *The County shall support the goals and policies of the San Joaquin River Parkway Plan to preserve existing habitat and maintain, enhance, or restore native vegetation to provide essentially continuous riparian and upland habitat for wildlife along the river between Friant Dam and the Highway 145 crossing.*
- 5.E.11. *The County shall provide for a minimum 200 foot wildlife corridor along the San Joaquin River between Friant Dam and the Highway 145 crossing, consistent with the San Joaquin River Parkway Plan. The County shall require a buffer with a minimum width of 150 feet between existing or planned urban or suburban uses. Exceptions may be necessary where the minimum width is infeasible due to topography or other physical constraints. In these instances, an offsetting expansion on the opposite side of the river should be provided.*

These policies, located in various sections of the *Policy Document*, support and promote the goals and policies of the *San Joaquin River Parkway Plan*.

IMPACTS

Alteration of Planned Land Uses

The *General Plan Land Use Diagram* will result in substantial changes to the present and planned land uses in the southern portion of the county where significant new growth areas are designated from agricultural

and open space uses to urban and suburban development. This is a significant, unavoidable impact of the *General Plan*.

Consistency with Adopted Plans for Madera County

The *General Plan* is generally consistent with the *City of Chowchilla General Plan*, the *Madera County Airport Land Use Compatibility Plan*, and the *Sierra National Forest Land and Resource Management Plan*. While the *Land Use Diagram* designates the State Center Community College new growth area, located partially within and adjacent to the City of Madera's General Plan Area, the City's General Plan acknowledges and supports the development of the community college and surrounding uses. The *General Plan* is therefore, considered consistent with the intent and policies of the City of Madera's plan.

The *General Plan* includes policies to support and cooperate with development of the San Joaquin River Parkway under the *San Joaquin River Parkway Plan*.

The *General Plan* proposes no changes that would significantly affect neighboring Mariposa, Merced, or Mono Counties, or the City of Firebaugh. The City of Fresno and Fresno County General Plans support increasing urbanization north along the Highway 41 Corridor within Fresno County. This growth trend has continued north across the Fresno County line into southern Madera County and is reflected in the designation of the new growth areas in southern Madera County. The *General Plan* is therefore compatible with the plans of Fresno County and the City of Fresno.

The *General Plan* does not include a proposed beltway around Clovis linking to State Route 99 in Madera County on the north and Fresno County on the south that is described in the *City of Clovis' General Plan*. Based on traffic studies conducted in connection with the *General Plan*, this facility would not serve to improve traffic conditions related to growth in Madera County and would be a costly roadway that would require a river crossing and multi-jurisdictional cooperation. Policies of the *General Plan* commit the County to participating in interjurisdictional cooperation concerning regional issues. Since the proposed beltway is conceptual and is not within the City of Clovis' jurisdiction, the lack of such a facility in the *Madera County General Plan* is not considered a significant impact.

Displacement of Existing Communities

The *General Plan* will not result in the displacement or disruption of existing communities. The *Plan* is substantially consistent with plans for the two cities in the county and adopted County area plans. The *Plan* further calls for the update of existing area plans and the development of new areas plans to focus efforts on localized planning issues for the county's communities.

In addition to the primary impacts related to the designation of land uses, development of previously undeveloped land in accordance with the land uses designations of the *Land Use Diagram* will have secondary impacts on sensitive resources, such as the loss of agricultural land, open space or wildlife habitat, an increase in traffic, and an increase in the demand for public services and facilities. The secondary impacts of proposed land use changes are evaluated in the remaining chapters of this *EIR*. Furthermore, development within new growth areas will undergo separate environmental review as area plans are prepared.

MITIGATION MEASURES

There are no feasible mitigation measures beyond the policies and programs included in the *Policy Document* that would minimize the adverse impact resulting from the alteration of planned land use in the new growth areas.

3.2 HOUSING

ENVIRONMENTAL SETTING

Housing supply and other housing issues within Madera County are discussed in detail in the *Housing Element* adopted by the Board of Supervisors in November 1993 and certified by the State Department of Housing and Community Development (HCD) in January 1994.

METHODOLOGY

Assumptions

1. New housing and employment development will occur consistent with the 2010 development estimates in Chapter 2 of this *EIR*.
2. The County will update the *Housing Element* in accordance with statutory requirements.
3. As they are adopted, new and revised area plans will be consistent with all *Housing Element* policies.

Thresholds of Significance

According to the State *CEQA Guidelines*, a project will normally have a significant impact on housing if it will affect the existing supply of housing or create a demand for more housing. For the purposes of this *EIR*, the *General Plan* is considered to have a significant impact if adoption or implementation of the plan would create a demand for more housing without providing for accompanying housing development, or if it would be inconsistent with the County's adopted *Housing Element*.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

Table 2-13 of Chapter 2 indicates the *Land Use Diagram* combined with the general plans of the cities of Madera and Chowchilla are expected to accommodate almost 31,390 new dwelling units by 2010, more than doubling the 1990 total of 30,800 dwelling units. Two-thirds of the new units are projected to be developed in unincorporated areas (i.e., outside the Chowchilla city limits and the City of Madera General Plan Area). The *Land Use Diagram* could also affect the demand for new housing through the designation of additional commercial and industrial land.

According to the 1990 Census, countywide, Madera had an average of 1.18 workers per household. Using this average and using the estimates for residential development summarized by Table 2-13, the *Land Use Diagram* and the two cities' general plans could provide housing for an additional 37,000 employed persons in the year 2010. Employment growth by 2010 is estimated to result in as many as 34,300 additional jobs being created, for a total of about 62,000 jobs in the year 2010. Therefore, market forces will likely produce more housing than job opportunities by 2010. Growth in jobs in the region is expected to be greatest in

Fresno County. The designation of more land for employment-generating development in Madera County by the *Land Use Diagram*, however, will provide an opportunity for residents of Madera County to find jobs closer to home. Because of the projected growth in jobs outside the county, the demand for new housing in most areas of the county is projected to be greater than that for new commercial and industrial development, at least in the near term. Exceptions to this include the City of Madera area, the Gunner Ranch West area (development of the Valley Children's Hospital and related medical offices), and the Chowchilla/Fairmead area (expansion of the Central California Women's Facility).

Housing Element

The *Housing Element* includes goals, policies, and programs for the general provision of housing in Madera County and quantified objectives for the development of housing for the years 1992 through 1997. Goals and policies of the *Housing Element* encourage the construction of housing to meet the county's projected housing needs for very-low-, low-, and moderate-income households; to provide for decent housing for all income levels, including migrant farm worker housing, emergency shelters, and housing for other groups with special needs; to provide for a balance of residents and jobs; to preserve existing residential neighborhoods; and to ensure safe, sanitary housing. The *Housing Element* encourages the conservation and rehabilitation of existing dwelling units as well as for the development of new housing.

The *Housing Element* also includes an inventory of sites for available housing. The *Land Use Diagram* designates additional land for housing, and includes all medium and high density zoned areas shown on the inventory. The *Land Use Diagram* would allow more opportunities for housing development in Madera County.

The policies of the *Housing Element* apply to all unincorporated areas of the county. New area plans for the new growth areas will be required to comply with all applicable policies of the *Housing Element*. In subsequent *Housing Element* updates, the County will be required to reexamine the effectiveness of these policies and take necessary actions.

GENERAL PLAN POLICY RESPONSE

The *General Plan*, in conjunction with the adopted *Housing Element*, include policies and programs to offset the adverse housing-related impacts associated with the *Land Use Diagram*. The increase in land designated for the development of more employment-generating land uses will help stem the flow of workers out of the county, leading to a better balance between jobs and housing.

Relevant housing-related General Plan policies include the following:

Residential Land Use Policies

- 1.C.1. *The County shall maintain an adequate supply of residential land in appropriate land use designations and zoning categories to accommodate projected household growth, maintain normal vacancy rates, and minimize residential land costs.*
- 1.C.2. *The County shall promote the development of higher-density residential development along major transportation corridors and transit routes.*
- 1.C.3. *The County shall promote the development of affordable housing in areas served by adequate public facilities and services.*

- 1.C.4. The County shall encourage the concentration of multi-family housing in and near downtowns, major commercial areas, community and village cores, and neighborhood commercial centers.*
- 1.C.5. The County shall encourage the planning and design of new residential subdivisions to emulate the best characteristics (e.g., form, scale, and general character) of existing, nearby neighborhoods.*
- 1.C.6. The County shall ensure that residential land uses are separated and buffered from such major facilities as landfills, airports, and sewage treatment plants.*
- 1.C.7. The County shall require residential project design to reflect and consider natural features, noise exposure of residents, circulation, access, and the relationship of the project to surrounding uses. Residential densities and lot patterns will be determined by these and other factors. As a result, the maximum density specified by General Plan designations or zoning for a given parcel of land may not be realized.*
- 1.C.8. The County shall require residential subdivisions to be designed to provide well-connected internal and external street, bikeway, and pedestrian systems.*

Programs

- 1.5. The County shall monitor the supply of available land for residential and nonresidential development to identify any excesses or deficiencies in any type or density of land use designation. If any such imbalance exists, the County shall initiate General Plan amendments to address it.*

These policies provide for higher density residential development along major transportation corridors and new transit routes, in and near downtowns and commercial areas, provide for appropriate lot sizes, and prevent the development of residential land uses next to incompatible uses.

New Growth Areas

- 1.B.2. The County shall require that the planning and design of new growth areas carries out the following objectives:*
 - a. Concentrate higher-density residential uses and appropriate support services along segments of the transportation system with good road and possible transit connections to the remainder of the region;*
 - b. Support concentrations of medium and high-density residential uses and higher intensities of non-residential uses near existing or future transit stops along trunk lines of major transportation systems;*
 - c. Support the development of integrated mixed-use areas by mixing residential, retail, office, open space, and public uses while making it possible to travel by transit, bicycle, or foot, as well as by automobile; and*
 - d. Provide buffers between residential and incompatible non-residential land uses.*

This policy requires new growth areas to concentrate higher density residential use along segments of the transportation system with good road and transit connections to the rest of the region.

Jobs/Housing Balance

- 1.F.1. *The County shall concentrate most new growth within existing communities and designated new growth areas and shall emphasize infill development, intensified use of existing development, and expanded services so individual communities become more complete, diverse, and balanced.*
- 1.F.2. *The County shall designate and encourage the development of employment-generating uses in appropriate areas near existing and designated residential development.*

Programs

- 1.10. *The County shall establish and maintain a program to monitor the jobs-housing balance in Madera County.*

These policies encourage new residential development within existing communities and new growth areas and promote the opportunity for residents to live near their place of work.

IMPACTS

The *General Plan* designates commercial and industrial land that will create a demand for housing, but also provides for a substantial increase in the housing stock in the unincorporated county. The *General Plan* is consistent with and supports the policies of the *Housing Element*. The housing related impacts of the *General Plan* are therefore considered less-than-significant.

Indirect impacts of housing construction may result from increased traffic, the loss of valuable natural resources such as wildlife habitat and the conversion of agricultural land, and the increase in demand for public services and facilities. The secondary and tertiary impacts resulting from the designation of additional land for housing are discussed in the remaining sections of this EIR.

MITIGATION MEASURES

No mitigation measures beyond the policies and programs included in the *Policy Document* and the *Housing Element* are necessary.

3.3 POPULATION**ENVIRONMENTAL SETTING**

The existing population characteristics of Madera County are summarized in Chapter 3 of the *General Plan Background Report*. The overall population changes that will result from the General Plan are discussed in Chapter 2 of this *EIR*.

METHODOLOGY

Assumptions

1. Population will increase according to the estimates in Chapter 2 of this *EIR*.
2. Resource and infrastructure constraints will not limit population growth to levels below those indicated in Chapter 2.
3. The development of jobs within Madera County and outside Madera County will foster housing development in Madera County.
4. High rates of population and employment growth will continue in Fresno County.

Thresholds of Significance

According to the State *CEQA Guidelines*, a project could have adverse impacts on population if it has the potential to substantially alter the location, distribution, density or growth rate of the population of an area.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

Table 2-13 in Chapter 2 of this *EIR* presents an estimate of population growth in the county based on assumptions about market forces and land availability. This table shows that the *Land Use Diagram* could accommodate a significant increase in the population in the unincorporated county, including within three new growth areas that are currently in agricultural use in southern Madera County. Development in the State Center Community College Area will generally be located on the periphery of the city of Madera area and will not generally alter the distribution, location, or rate of growth of the city of Madera.

Development in the Rio Mesa and Gunner Ranch West new growth areas located in southern Madera County will result in an alteration in the location of urban and suburban areas. The combined size of these areas will result in a substantial new concentration of population in southern Madera County.

The California Department of Finance (DOF) projects a 2010 population of 171,800 for Madera County. As described in Chapter 2, the *General Plan* projects a higher rate of growth than anticipated by DOF as a result of designating two major new growth areas in southern Madera County. According to forecasts prepared by David Taussig & Associates, development in these areas will attract housing and employment development that would otherwise be located in Fresno County. Designation of these areas is not anticipated to increase the rate of population growth in the overall Fresno and Madera County region.

GENERAL PLAN POLICY RESPONSE

The following policies address general population-related implications of the *Land Use Diagram*.

New Growth Area Policies

- 1.B.1. *The County shall require that designated new growth areas be comprehensively planned as single units rather than as individual property ownerships. Each designated new growth area shall be developed according to an adopted area plan. New growth areas include Gunner Ranch West Area, Rio Mesa Area, and State Center Community College Area.*

1.B.2. The County shall require that the planning and design of new growth areas carries out the following objectives:

- a. Concentrate higher-density residential uses and appropriate support services along segments of the transportation system with good road and possible transit connections to the remainder of the region;*
- b. Support concentrations of medium and high-density residential uses and higher intensities of non-residential uses near existing or future transit stops along trunk lines of major transportation systems;*
- c. Support the development of integrated mixed-use areas by mixing residential, retail, office, open space, and public uses while making it possible to travel by transit, bicycle, or foot, as well as by automobile; and*
- d. Provide buffers between residential and incompatible non-residential land uses.*

Programs

1.4. The County shall review and adopt an area plan for the State Center Community College new growth area that meets the goals and policies of the General Plan, provides for adequate infrastructure and public facilities and services, provides for design guidelines for new development, and addresses the environmental impacts of such development.

These policies and programs will help minimize potential population-related impacts by providing a comprehensive framework for the preparation of area plans that ensures that local and regional concerns are adequately addressed in the planning of major new growth areas.

IMPACTS

Development according to the *General Plan* will alter the location and distribution of the population in Madera County primarily by designating two new growth areas in Southern Madera County that will create a substantial new concentration of population in this area. Designation of these new growth areas is also anticipated to increase the growth rate in Madera County beyond what is currently projected by the Department of Finance. These effects on Madera County's population are considered a significant impact.

Indirect effects associated with population growth include increased traffic with associated air quality impacts, the increase in the demand for public services and facilities, and in some cases a loss of rural character. These indirect effects are discussed in subsequent chapters of this EIR.

MITIGATION MEASURES

There are no feasible mitigation measures beyond the policies and programs included in the *Policy Document* that would minimize the adverse impact resulting from the alteration of the location and distribution of population resulting from development of the new growth areas in southern Madera County and the associated increase in the population growth rate.

CHAPTER 4

TRANSPORTATION AND CIRCULATION

This chapter focuses primarily on impacts of growth on Madera County's street and highway system. The chapter also discusses public transportation, non-motorized modes of travel, and air transportation, all of which constitute small but important components of Madera County's transportation system.

Because of the inherently regional nature of transportation systems, particularly those serving unincorporated rural areas, most of the analysis in this chapter has a countywide focus. In some cases, however, the analysis looks at issues related to specific areas of the county.

4.1 STREETS AND HIGHWAYS

ENVIRONMENTAL SETTING

Chapter 3 of the *Background Report* describes the existing roadway system and conditions. Madera County's transportation needs are served by a system of roadways that connects all parts of the county with major activity center within and outside the county. These roadways are illustrated in Figure 1-2 of the *Policy Document*, which organizes the system into the following categories:

- Freeways
- Highways
- Expressways
- Arterials
- Collectors
- Local streets

The *Policy Document* describes the intended purpose of each of these facility types. The *Background Report* includes a description of the six standard levels of service which is also included as Table 4-1.

TABLE 4-1

LOS DEFINITIONS FOR SIGNALIZED INTERSECTIONS
(Note: V/C Ratios for Roadway Segments Vary as per Table 4-2)

Level of Service	Description	V/C Ratio
A	Describes operations with very low delay, i.e., less than 5.0 sec per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	Ratio < 0.60.
B	Describes operations with delay in the range of 5.1 to 15.0 sec per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	= 0.61-0.70.
C	Describes operations with delay in the range of 15.1 to 25.0 sec per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	= 0.71-0.80.
D	Describes operations with delay in the range of 25.1 to 40.0 sec per vehicle. At level "D", the influence of congestion becomes more noticeable. Long delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	= 0.81-0.90.
E	Describes operations with delay in the range of 40.1 to 60.0 sec per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.	= 0.91-1.00.
F	Describes operations with delay in excess of 60.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	Volume/Capacity > 1.00.

Source: Transportation Research Board, "Highway Capacity Manual", 1980-1985

An evaluation of existing conditions was made for the existing Madera County highway network, including a number of facilities that are not formally noted in the existing roadway classification system. In particular, the evaluation includes streets within the city of Madera that are not formally a part of the County General Plan or this environmental analysis; they are included in this evaluation for the sake of completeness and to identify cumulative impacts of countywide growth. Figures 4-1 and 4-2 identify those facilities for which Service Level C was exceeded in 1990, the base year for transportation analysis. Level of Service E is currently observed on SR 41 south of Avenue 12. Level D is currently observed in the following locations:

- on SR 41 in the Oakhurst area
- on Road 426 east of Oakhurst
- on SR 41 from Road 200 to Avenue 12
- on Avenue 12 east of Road 36

FIGURE 4-1

ROADWAY LOCATIONS WITH 1990 SERVICE LEVELS OF D OR POORER

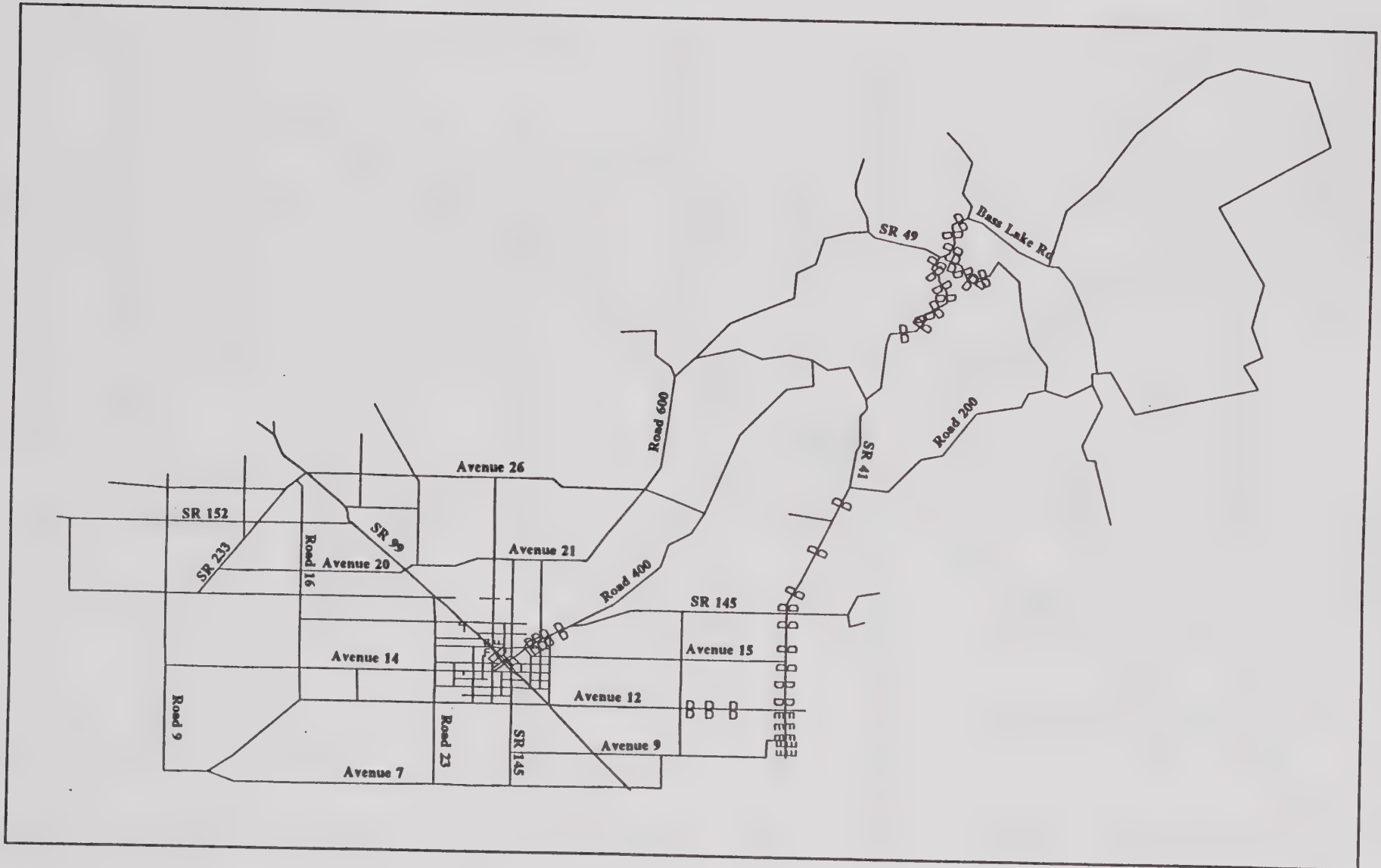
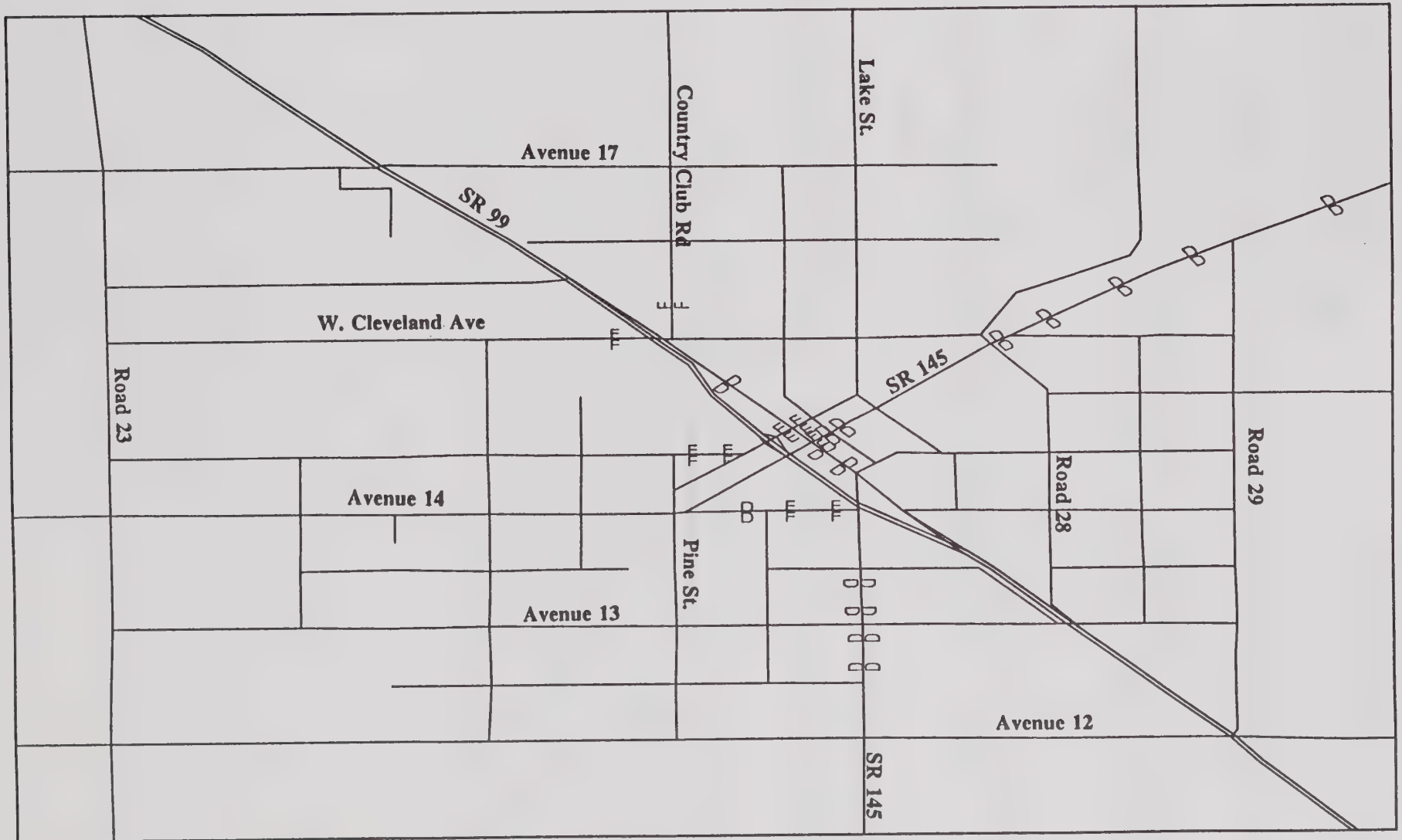


FIGURE 4-2

ROADWAY LOCATIONS WITH 1990 SERVICE LEVELS OF D OR POORER
Segments in the Vicinity of the City of Madera



- on Highway 145 east of the City of Madera
- on Highway 145 south of the City of Madera

In the city of Madera, a number of streets show Levels of Service ranging from D to F on the basis of this evaluation.

As is frequently the case in rural counties, the overall roadway system operates today at a very high level of service. The cases noted above constitute exceptions to the generally excellent service currently enjoyed by Madera County residents and visitors.

METHODOLOGY

This section describes the methodology, assumptions, and thresholds of significance established to assess impacts that would result from adoption and implementation of the *General Plan*.

Level of Service Determination

The *Policy Document* describes the intended purpose of each facility type and sets the standards for service level policy. Policy 2.A.8 establishes Service Level D as its minimum requirement with an effort to achieve Level C whenever possible; there is a recognition that achieving Level C, especially on two-lane rural highways, may be difficult to achieve for fiscal reasons.

For the purposes of *General Plan* analysis, the County has developed a technique of evaluating service level on the basis of "segment capacity." The segment capacity varies by roadway category as shown in Table 4-2, and the relationship between volume/capacity ratio and service level varies according to Table 4-3. Level of service for signalized intersections is defined in terms of volume/capacity ratio. A computer program determines the critical movements on each intersection approach and compares the volume on that approach to the capacity of the approach. The resultant V/C ratio of each approach is summed to determine the volume/capacity ratio for the intersection as a whole. The V/C ratio is in turn related to Service Level according to Table 4-1. The capacities have been derived from relevant chapters of the 1985 *Highway Capacity Manual*. It should be noted that the *Manual* contains considerable detail on roadway conditions, including width, terrain and other factors; these factors have been simplified and generalized for general planning purposes.

TABLE 4-2

CAPACITIES PER HOUR PER LANE FOR VARIOUS HIGHWAY FACILITIES

LOS	Freeways	Two-Lane Rural Highways	Multi-lane Rural Highways	Two-Lane County Roads	Multi-Lane County Roads
A	700	120	471	90	140
B	1100	240	943	189	294
C	1550	395	1286	306	476
D	1850	675	1586	530	826
E	2000	1145	1800	900	1400

Source: Dowling Associates, 1994

TABLE 4-3

VOLUME/CAPACITY RATIOS FOR VARIOUS HIGHWAY FACILITIES

LOS	Freeways	Two-Lane Rural Highways and County Roads	Multi-lane Rural Highways and County Roads	Urban Streets
A	0.35	0.10	0.26	0.60
B	0.55	0.21	0.52	0.70
C	0.78	0.34	0.71	0.80
D	0.93	0.59	0.88	0.90
E	1.00	1.00	1.00	1.00

Source: Dowling Associates, 1994

One response to the Notice of Preparation of this EIR came from the Fresno offices of Caltrans noting that Caltrans' Service Level policy seeks to maintain Level C on State Highways. The County recognizes the desirability of such a goal; however, it is exceedingly costly to maintain this policy, particularly on two-lane rural highways where the V/C ratio cannot exceed 0.34 for Service Level C. In view of the current and projected financing conditions in Madera County, the County has respectfully adopted Level D as a compromise between service level desires and potentially available funding.

Madera County Traffic Model

The impacts of 2010 development have been analyzed using the Madera County Transportation Commission's (MCTC) MINUTP travel forecasting model which was prepared specifically for the General Plan Update (and will be used on all future Madera County travel analysis projects). In addition to the geographic boundaries of Madera County, the model incorporates the entire area covered by the Council of Fresno County Governments (COFCG) urban area model as well as the area covered by the Merced County Associated Governments (MCAG) travel forecasting model. By including this wide area, the model attempts to predict the interaction between Madera County and its major adjoining neighbors. The model retains the detail (in land use and transportation network) of each of the adjoining models.

In brief, the model includes land use quantity estimates for each traffic analysis zone in the model as well as representations of the freeways, state highways, significant rural roads, and urban arterials; some urban collectors are also included in the model. The model also includes trip generation rates/equations which estimate trip generation on the basis of the included land use quantities. The model distributes and assigns the generated traffic to the highway system and produces estimates of average daily traffic on all of the highway segments in the model. A module also estimates service level on the basis of the capacities and volume/capacity ratios in Tables 4-2 and 4-3.

Data for the 2010 development estimates comes from a number of sources. For the Merced County portion of the model, estimates of land use and modifications to the highway network were taken directly from MCAG's estimates of these quantities for their 2010 projection. The Fresno area used COFCG's 2010 highway network and their "buildout" land use scenario. COFCG produced both 2010 and buildout land use scenarios when they produced their estimates in the early 1990s; however, discussion with COFCG staff indicated that the 2010 estimate was quite conservative and would probably be reached before the year 2000. Therefore, a decision was taken to use their buildout scenario as a representative 2010 estimate.

In Madera County, estimates were made by traffic analysis zone of the projected number of dwelling units and employees on the basis of the *Land Use Diagram*.

Assumed Future Roadway Improvements

Several improvements to the roadway network were assumed in order to respond to anticipated growth by the year 2010 and as provided for in the *Circulation Plan Diagram*. The model was iterated to reach the resultant combination of roadway improvements. The proposed improvements are as follows:

- SR 41 between Avenue 15 and the Fresno County Line: The forecast includes an upgrading of SR 41 to a four-lane freeway from the end of the freeway in Fresno north to Avenue 12. It also includes upgrading the facility between Avenues 12 and 15 to four-lane highway status.
- Avenues 9/10 between SR 41 and SR 99: The model indicates the need for a six-lane arterial from Highway 99 to approximately Road 38. The plans of developers to provide a new six-lane connection that "rounds the corners" of the intersections of Avenue 9/Road 40½ and Avenue 10/Road 40½ are appropriate responses to this travel projection.
- Avenue 12 between Road 36 and SR 41: This segment is proposed to be widened to four lanes in response to an analysis that indicated that Service Level E would occur on a two-lane cross-section.

- Country Club Drive/Road 26: A four-lane facility has been used in this segment in response to forecasts indicating the need for a facility at least this wide.

In addition, the following roadway improvements identified in the *City of Madera General Plan* have been included in this 2010 forecast:

- Extension of Ellis Street from its current eastern terminus to Road 29, including a new crossing of the Fresno River.
- Extension of Schnoor Avenue from Fillmore Avenue to Avenue 16, including a new river crossing.
- Extension of Granada Drive north to Avenue 16,
- Extension of Road 24½ from Avenue 12 to Avenue 17
- Provision of a new southbound off-ramp from SR 99 to Almond Avenue

The *City of Madera General Plan* indicates that all collectors and arterials in its circulation diagram are to be widened to four lanes by 2010. The forecast for Madera County has chosen to retain two-lane configurations in most cases, widening only where the forecast appears to indicate a need. In this 2010 forecast, widenings to four lanes within the city of Madera include:

- Olive Avenue between Yosemite and SR 145
- Lake Street north of Cleveland Avenue
- SR 145 between Almond Avenue and Avenue 13
- Sunset Avenue between Granada and 4th
- Avenue 16 between Granada and SR 99
- Avenue 17 between SR 99 and D Street
- Ellis Street between D Street and Road 29
- Cleveland Avenue from Schnoor to SR 145

State Route 99 has been modeled in the 2010 scenario as it exists today: a four-lane expressway/freeway combination. The results of the model indicate that two additional lanes may be needed within the city of Madera and south to the Madera County/Fresno County line. This widening has not been included in the forecast as it is considered one of a number of options available to the County in terms of future river crossings. Program 8.2 of the *General Plan* proposes studying the need for additional crossings; this study is underway as of October 1995 as a joint effort with Fresno County.

Thresholds of Significance

For the purposes of this EIR, the *General Plan* is assumed to have a significant impact if traffic volumes would exceed the *General Plan*'s standard of Level of Service D, based on the results of the Madera County traffic model.

IMPLICATIONS OF THE LAND USE DIAGRAM

The travel forecast for 2010 provides a concise diagram of the potential implications of the *Land Use Diagram*. The forecast includes estimates of Level of Service on each segment in the model. Figures 4-3 through 4-5 are taken directly from the model and indicate locations where Service Levels would fall below Level C in 2010. All links without a designation would operate between levels A and C.

The diagrams indicate that most of the County would continue to enjoy the high level of service that exists today. Of those segments that would show a deterioration in service level, most would operate at Level D,

FIGURE 4-3

MADERA COUNTY 2010 FORECAST LOS D-F SEGMENTS

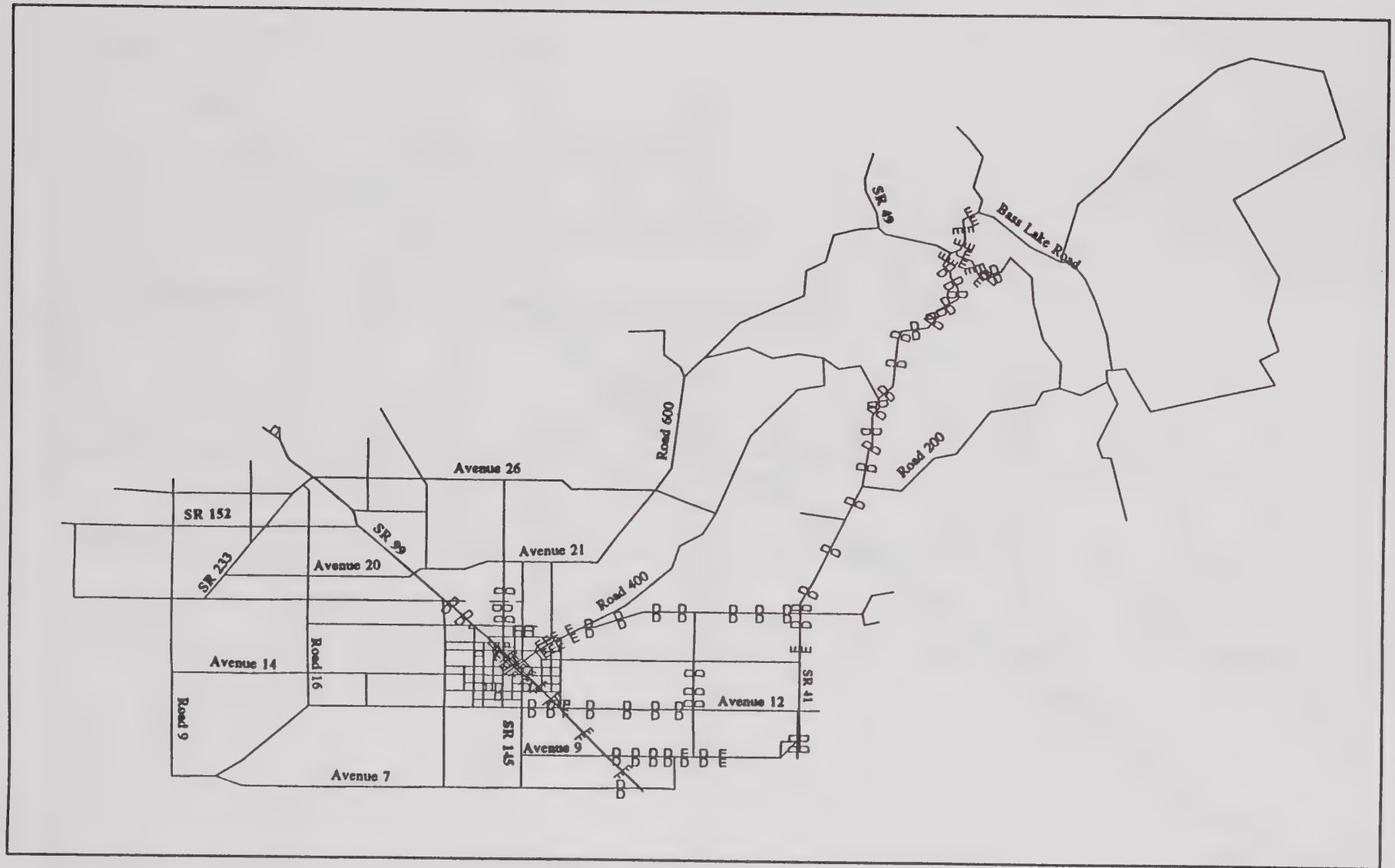


FIGURE 4-4

MADERA COUNTY 2010 FORECAST LOS D-F SEGMENTS
Segments in the Vicinity of the City of Madera

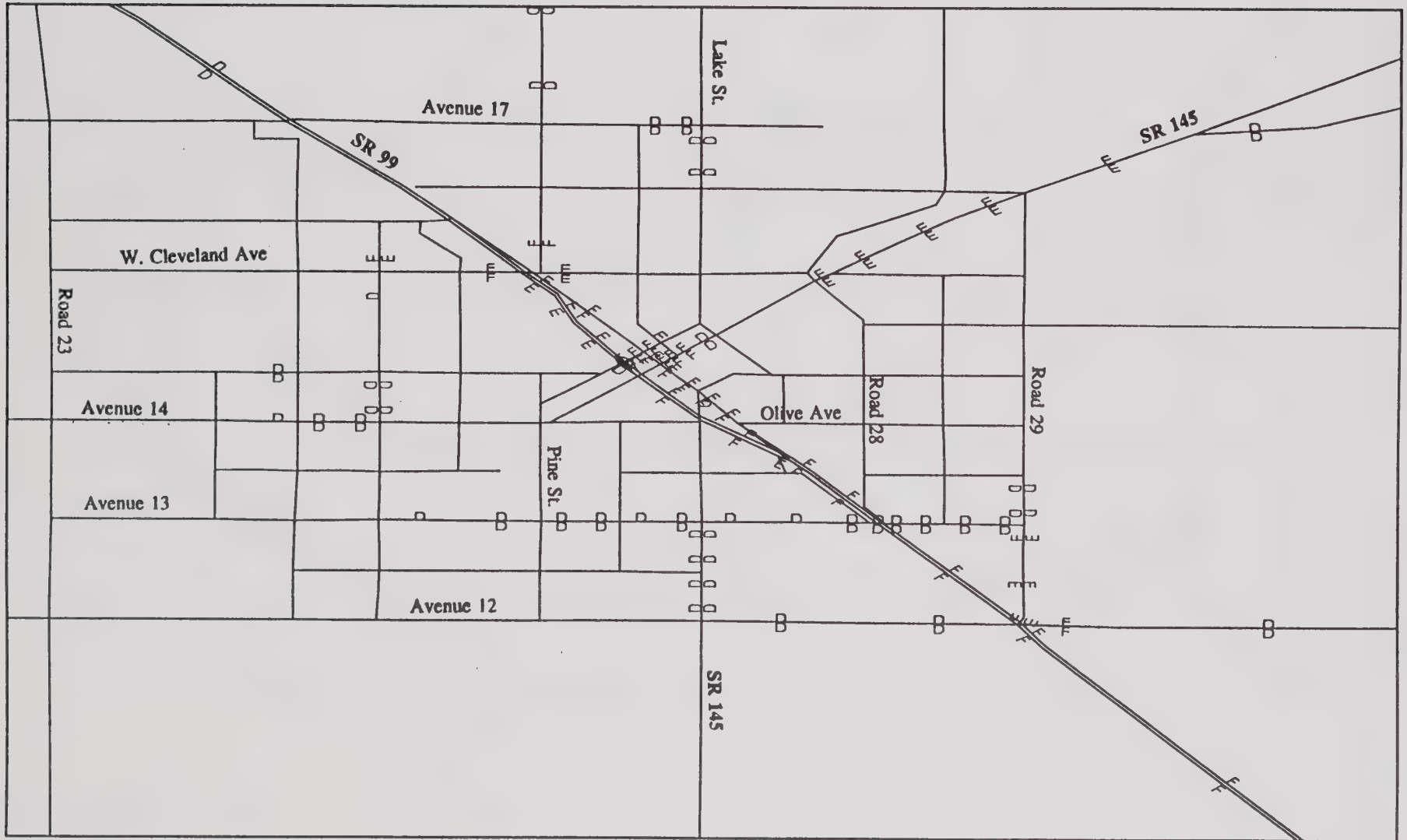
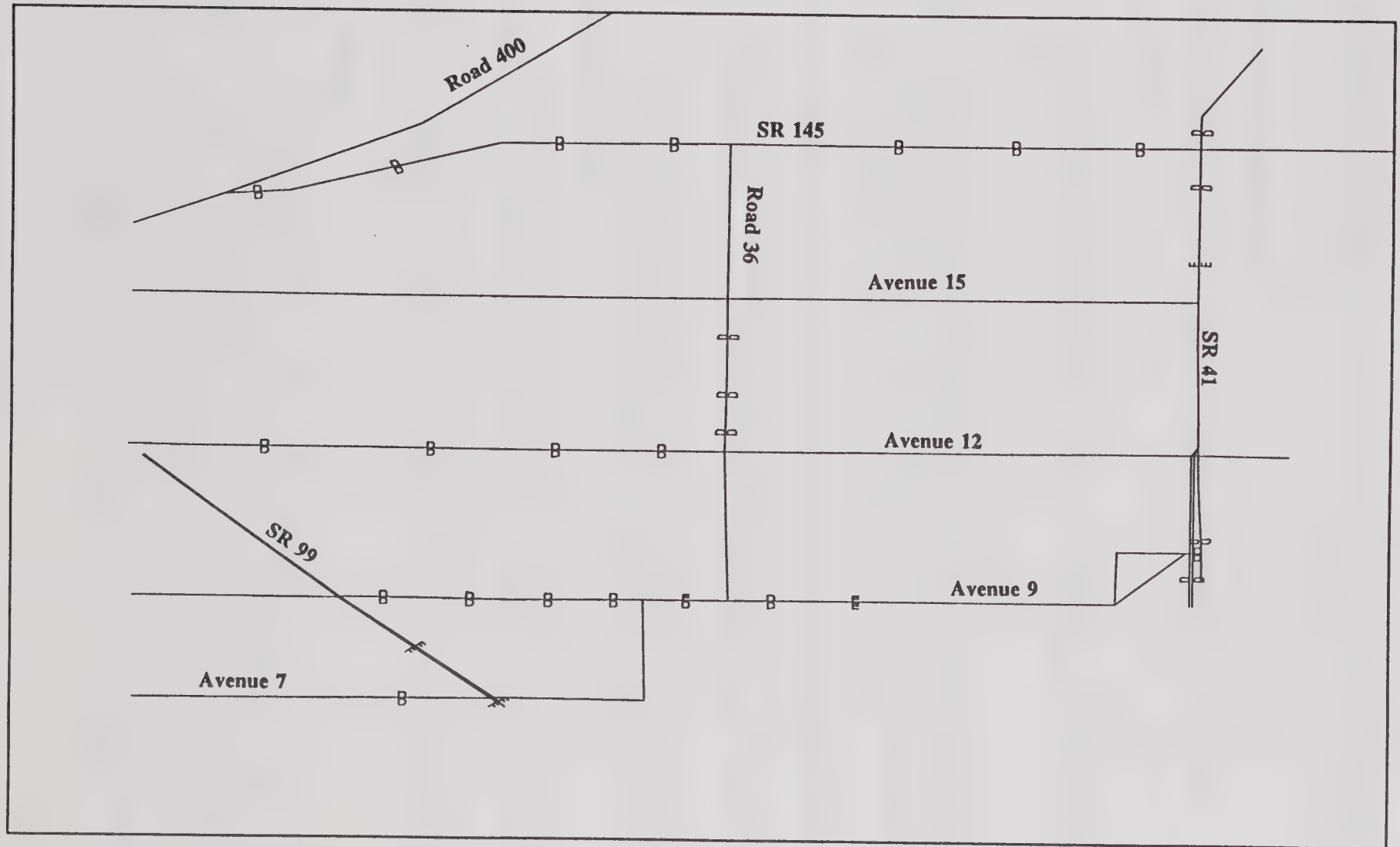


FIGURE 4-5

MADERA COUNTY 2010 FORECAST LOS D-F SEGMENTS
Southeast Portion of the County Detail



satisfying the County's service level standard. There are a few segments that are on the borderline in terms of the standards and a few that would exceed the standards. These locations are discussed in the following section on impacts.

GENERAL PLAN POLICY RESPONSE

The following policies address the traffic implications of new development under the *General Plan*:

Roadway Design Policies

- 2.A.1. *The County shall plan, design, and regulate roadways in accordance with the functional classification system described in Part I of this Policy Document and reflected in the Circulation Plan Diagram.*
- 2.A.2. *Existing and new streets and roads shall be dedicated, widened, and constructed according to the roadway design and access standards generally defined in Part I of this Policy Document. Exceptions to these standards may be necessary, but should be kept to a minimum. Exceptions shall be permitted only upon determination by the County Road Commissioner that safe and adequate public access and circulation are preserved where such exceptions are permitted.*
- 2.A.3. *The County shall continue to develop and implement the latest technology in road construction.*
- 2.A.4. *The County shall ensure the installation of signals, signs, lighting, and other traffic safety and operation improvements necessary for the safe and efficient movement of all types of traffic.*
- 2.A.5. *The County shall minimize the adverse impacts of road construction and vehicular traffic on the environment and adjacent land uses. Appropriate erosion control measures shall be included in driveway and roadway design. These measures shall be subject to approval by the County Engineering Department.*
- 2.A.6. *The County shall require that plans for road improvements give maximum consideration to the preservation of existing landscaping to the extent that it will be consistent with road system safety.*
- 2.A.7. *The County shall require that all medians on local streets be landscaped. Landscaping shall not interfere with public safety. The developer, in cooperation with the County, shall provide a mechanism for landscaping maintenance.*

Level of Service Policies

- 2.A.8. *The County shall develop and manage its roadway system to maintain a minimum Level of Service D on all State and County Roadways. For planning applications, Level of Service shall be measured for roadway segments and shall be based on the capacities shown in Table 2.A.8. The facility classification in this table shall correspond to Table I-3 and Figure I-1, the Circulation Plan Diagram. The County may also require analysis of specific intersections when intersections are deemed to be critical for specific projects or locations; in those cases, Level of Service shall be computed according to the planning methodology as documented in Circular 212, Interim Materials on Highway Capacity, published by the Transportation Research Board in January 1980.*

TABLE 2.A.8
CAPACITIES PER HOUR PER LANE FOR VARIOUS HIGHWAY FACILITIES

LOS	Freeways	Two-Lane Rural Highway	Multi-lane Rural Highway	Express- way	Arterial	Collector
A	700	120	470	720	450	300
B	1,100	240	945	840	525	350
C	1,550	395	1,285	960	600	400
D	1,850	675	1,585	1,080	675	450
E	2,000	1,145	1,800	1,200	750	500

2.A.9. *To identify the potential impacts of new development on traffic service levels, the County shall require the preparation of traffic impact analyses for developments determined to be large enough to have potentially significant traffic impacts. The County may allow exceptions to the level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable. In allowing any exception to the standards, the County shall consider the following factors:*

- a. *The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.*
- b. *The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.*
- c. *The right-of-way needs and the physical impacts on surrounding properties.*
- d. *The visual aesthetics of the required improvement and its impact on community identity and character.*
- e. *Environmental impacts including air quality and noise impacts.*
- f. *Construction and right-of-way acquisition costs.*
- g. *The impacts on general safety.*
- h. *The impacts of the required construction phasing and traffic maintenance.*
- i. *The impacts on quality of life as perceived by residents.*

Exceptions to the standards should be allowed only after all feasible measures and options are explored, including alternative forms of transportation.

2.A.10. *The County shall strive to meet the level of service standards through a balanced transportation system that provides alternatives to the automobile.*

2.A.11. *The County shall work with neighboring jurisdictions to provide acceptable and compatible levels of service and joint funding on roadways that cross county boundaries.*

Roadway Network Policies

- 2.A.12. *The County shall provide for improvements to street and highway facilities as necessary to serve new development and to meet the traffic demands of the county.*
- 2.A.13. *Through-traffic shall be accommodated in a manner that discourages the use of neighborhood roadways, particularly local streets. This through-traffic, including through truck traffic, shall be directed to appropriate routes in order to maintain public safety and local quality of life.*

Financing of Improvements Policies

- 2.A.16. *The County shall pursue all appropriate federal, state, and local funding sources for street and highway improvements.*
- 2.A.17. *The County shall require proposed new development projects to analyze their contribution to increased traffic and to implement improvements necessary to address the increase.*
- 2.A.18. *The County shall strive to secure financing in a timely manner for all components of the transportation system to achieve and maintain adopted level of service standards.*
- 2.A.19. *The County shall assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be made when new development generates significant public benefits (e.g., low income housing, needed health facilities) and when alternative sources of funding can be identified to offset foregone revenues.*

Programs

- 2.1 *The County shall review and revise as necessary its roadway design standards to ensure consistency with Part I of this Policy Document.*
- 2.2 *The County shall prepare and adopt a Capital Improvement Program (CIP) that includes transportation improvements designed to achieve adopted level of service standards based on a horizon of at least 15 years. The CIP should be updated at least every five years, or concurrently with the approval of any significant modification of the land use allocation assumed in the Madera County traffic model. The CIP should be closely coordinated with the Regional Transportation Plan and Transportation Improvement Program prepared and maintained by the Madera County Transportation Commission.*
- 2.3 *The County shall prepare and adopt a traffic fee allocation ordinance implementing traffic mitigation fees for the Capital Improvement Program. The fee structure may incorporate or replace existing local traffic fees.*
- 2.4 *The County shall continue to identify and pursue appropriate new funding sources for transportation improvements and to coordinate such activities with the Madera County Transportation Commission and the Madera County Transportation Authority.*
- 2.5 *The County shall work with the Madera County Transportation Commission in periodically reviewing and updating the Regional Transportation Plan (RTP) at least as often as required by*

State law. The County will adopt and maintain a list of regionally significant county streets and roads for inclusion in the RTP.

- 2.6 *The County will forward copies of all traffic counts to the Madera County Transportation Commission for inclusion in the Madera County Traffic Volumes booklet and for incorporation into the countywide traffic model.*
- 2.7 *The County shall work with adjacent counties to share land use and transportation information and transportation modeling results. The County shall coordinate its transportation planning with the Madera County Transportation Commission, Caltrans, cities within the county, and adjacent jurisdictions to develop a consistent methodology to determine the impacts of new development; the transportation system components necessary to mitigate those impacts; the capital, operating, and maintenance costs of the components; and the costs covered by established funding sources.*
- 2.8 *The County shall participate in the Madera-Fresno East-West Corridor Study to examine the need for additional crossings of the San Joaquin River between Madera and Fresno Counties and the possible effects of additional river crossings on traffic volumes and improvement needs for State Route 41 and State Route 99.*

Roads are to be designed and improved according to the *Circulation Plan Diagram*. Policy 2.A.12 indicates that the County shall provide for improvements to street and highway facilities as necessary to serve new development and to meet the traffic demands of the county, funding to be addressed through programs 2.2 and 2.3. Implementation of the *General Plan* will include the programming of the roadway improvements identified in the "methodology" section. The County will also work with individual developers to assure that funding is provided to insure that needed facilities are in place in a timely manner. In response to the increased demand across the San Joaquin River, the County proposes to participate in a study of the need for additional river crossings as described in Program 2.8; this study is underway as of October 1995.

IMPACTS

The County's Level of Service policy defines Level of Service D as the minimum standard for roadways. Therefore, impacts are identified as any location where Service Level E or F is forecast after roadway improvements as identified earlier in this chapter are implemented. Several roadway locations show service levels of E or F based on 2010 traffic projections according to the traffic model. Traffic volumes on some roadway sections represent problems that can be expected to occur with a fairly high level of certainty. Other locations represent borderline cases where due to the level of uncertainty in both the long-term land use forecasts and the travel forecast, these identified service levels should best be used as an early warning of possible problems, but not a strict requirement to implement a roadway improvement project. The locations where the forecast indicates LOS E or F are discussed in the following paragraphs.

Potential Areas of Impact

- SR 99 between Avenue 17 and the San Joaquin River: The forecast indicates that without improvement, this segment would operate at Service Level F in the year 2010. Volume/capacity ratios approximately 15 percent above capacity are projected over much of this segment. Much of the increase in traffic can be attributed to the projected growth in the city of Madera and continued growth in travel between Madera and Fresno. The model has clearly established the need for some type of improvement in this corridor. However, widening of the freeway is only one of several options. Rather than identify needed improvements to respond to this condition, the County has chosen to conduct a follow-up study of the

need for additional river crossings (Program 2.8). Widening of SR 99, widening of SR 41, providing one or more new river crossings, or some combination of these three, are all considered viable possibilities at this time. When the supplementary study has been completed, it is anticipated that an amendment to the General Plan will be proposed incorporating the study results and recommendations.

- SR 41 and Road 426 in the vicinity of Oakhurst: The forecast indicates that Service Level E could occur on both of these major facilities in the vicinity of Oakhurst. The volume/capacity ratios are in the vicinity of 0.70-0.75. However, this is an area where trip generation is untypical of the remainder of the County. There is a significant percentage of retirees and vacation homes in the area which tend to have lower trip generation rates than the remainder of the county. The model is calibrated on the assumption that this socioeconomic mix will continue to the year 2010, but it is not possible to project this with great certainty. In view of the cost of roadway improvements in this area, it would appear more reasonable to monitor this area for changes in traffic rather than to propose a specific improvement project at this time.
- SR 145 east of the City of Madera: The model projects Level E operation on the segment of SR 145 between Tozer Street and Road 400, assuming the continuation of a two-lane segment. However, this is an area where the original 1990 traffic counts are based on the Caltrans' Statewide count book, and there is a significant variation in the observed counts over this segment. While roadway improvements may be required, this area would benefit from a more detailed counting program, which could in turn project changes into the 2010 forecast, to achieve a higher degree of certainty before roadway improvements are programmed.

Borderline Cases

The model projects LOS E conditions on Road 29 between Avenue 14 and SR 99. However, closer inspection of the model indicated that it tended to over-predict traffic on this segment in the calibration year (1990). It is likely that this tendency is over-predicting the future case as well. This location, together with an adjoining portion of Avenue 12, should be monitored for growth in traffic as urban growth spreads into this area.

LOS E is projected for a small segment of SR 41 north of Avenue 15. The projected volume/capacity ratio is 0.60, which just exceeds the LOS D threshold. Consideration might be given to extending the proposed four-lane project to include a transition segment north of Avenue 15. Otherwise, this is another location where monitoring should be continued.

Avenue 9 between Road 38 and Road 35 shows two segments with LOS E. Again, these locations just exceed the LOS D threshold. The County may wish to consider whether these locations should be improved within the context of current development activities, or whether monitoring of traffic will be sufficient.

Impacts

Based on the discussion above, traffic service levels on SR 99 between the city of Madera and the San Joaquin River are considered a significant impact of the *General Plan*.

Traffic service levels of SR 41 and Road 426 in the vicinity of Oakhurst and on SR 145 east of Madera are also projected to exceed service level D late in the time horizon of the *General Plan*. Because of uncertainties in forecasting such long term travel patterns in these areas and because the model indicates service levels close to service level D, this is considered a potentially significant impact.

All other impacts appear to be of the marginal or borderline type, and are therefore considered less-than-significant. There are a few locations within the city of Madera where the County's service levels standards would be exceeded. These locations are identified for informational purposes only, as this EIR does not address roadway improvements under the jurisdiction of the city of Madera.

MITIGATION MEASURES

Program 2.8 provides for the County to participate in a study of additional roadway capacity across the San Joaquin River between Fresno and Madera Counties. This includes studying the implications of new river crossings and improvements to SR 41 and SR 99. This study is underway as of October 1995. Since the preferred improvements are not identified at this time, and the County cannot guarantee the development and funding of additional capacity, the impact on SR 99 is still considered a significant impact. When that study is complete, it is anticipated that a General Plan Amendment would be prepared incorporating the policies derived from that study.

To address other roadway segments identified as having service levels below D, continued monitoring of traffic volumes on SR 41 and Road 426 in the vicinity of Oakhurst and SR 145 east of the city of Madera is recommended. Roadway improvements should be planned when and if there is greater certainty regarding future travel patterns and service levels in this area. Inclusion of such improvements in the County's capital Improvement Program would reduce the impacts on these roadway segments to a less-than-significant level.

4.2 PUBLIC TRANSPORTATION

This section assesses the potential effects of development under the *General Plan* on Madera County's public transportation system.

ENVIRONMENTAL SETTING

Existing public transportation systems in Madera County are described in Chapter 3 of the *General Plan Background Report*. Madera County's rural, dispersed development pattern is not well-suited to the use of public transit. Existing and currently planned public transportation is limited to the cities and to recreation-oriented transit.

The only public transportation system in Madera County is Madera Dial-A-Ride, which is a demand responsive bus service for the city of Madera and outlying communities. This is a publicly-funded transit system available to all citizens within the service area.

In Fall 1992, the County initiated Madera Ranchos Transit, which provided service to the community of Madera Ranchos along Avenue 12. This service was, however, discontinued because of poor demand.

Madera Area Regional Shuttle is a inter-community bus shuttle still in the conceptual stage that would ultimately connect the unincorporated area of Fairmead, the Central California Women's facility, the cities of Chowchilla and Madera, the proposed State Center Community College campus, the possible University of California campus, and the community of Le Grand in Merced County. The feasibility of operating such a shuttle is dependent upon identifying a stable threshold of ridership. At such time as adequate support is identified, operations could begin relatively quickly.

The Yosemite Area Regional Transit System is a joint project of Mariposa, Merced, and Madera Counties. This regional system crosses county lines to serve a diverse mountain population and the National Park and

Forest System. A skeleton shuttle service currently operates along State Route 140 through Merced and Mariposa Counties, but is not yet available in eastern Madera County.

The City of Madera is studying the possibility of developing an intermodal transportation facility for downtown Madera that would provide connections to rail service, inter-city bus service, taxis, transit service, and temporary bicycle storage. While this facility would be under the control of the City of Madera, it would serve as a focal point for all passenger transportation in the county and would allow travelers entering the county to connect with other transit providers.

Amtrak provides connections in the San Joaquin Valley to points north and south, with connections to Sacramento, the San Francisco Bay Area, and Los Angeles.

METHODOLOGY

Typically, an analysis of the effect of development on public transit service would assess impacts on existing service providers. In the case of unincorporated Madera County, however, there are currently no fixed transit services operating. This analysis, therefore, focuses on the provision of public transit in conjunction with future development.

Assumptions

1. Because of the generally dispersed, low-density development pattern anticipated by the *General Plan*, public transit services are not expected to be a significant part of Madera County's transportation network within the time frame of the *General Plan*.
2. Development within the city of Madera should justify a fixed-route bus system in Madera by 2010.

Thresholds of Significance

The California Environmental Quality Act does not specifically discuss public transit services as an issue to be addressed in the environmental review process. Such services do, however, play an important role in the overall development of a community's transportation system, albeit a smaller role in rural areas than in more densely developed and populated urban areas. For purposes of this *EIR*, an impact would be significant if development adversely affected existing transit services or resulted in the unmet demand for such services.

IMPLICATIONS OF THE LAND USE DIAGRAM

Most of the development that could be permitted under the *Land Use Diagram* would be of relatively low-density and would occur in areas not currently served by public transit services. Accordingly, the *General Plan* would not result in impacts on public transit, either as a result of adverse effects on existing providers or as a result of generating significant new demand for services.

Substantial new development and expansion of the city of Madera could create a population center large enough to justify a fixed-route transit service (bus system). Unincorporated development around Madera, including that within the State Center Community College new growth area, could benefit from participation in such a system.

Two new growth areas are designated in southern Madera County: Rio Mesa and Gunner Ranch West. These areas are located immediately north of the Fresno metropolitan area and are assumed to develop at

urban densities which could benefit from public transit which might provide connections from these areas to the city of Fresno. Whether these areas can support transit services by 2010 will depend on the types and concentrations of development. Ultimate development and population for these areas will be large enough and dense enough to support transit services.

GENERAL PLAN POLICY RESPONSE

In anticipation of increased levels of development, both within and beyond the time frame of the *General Plan*, the *Policy Document* includes a substantial number of policies and programs intended to ensure that public transportation needs are accounted for as development occurs. These policies and programs include the following:

Land Use Policies

1.B.2. The County shall require that the planning and design of new growth areas carries out the following objectives:

- a. Concentrate higher-density residential uses and appropriate support services along segments of the transportation system with good road and possible transit connections to the remainder of the region;*
- b. Support concentrations of medium and high-density residential uses and higher intensities of non-residential uses near existing or future transit stops along trunk lines of major transportation systems;*
- c. Support the development of integrated mixed-use areas by mixing residential, retail, office, open space, and public uses while making it possible to travel by transit, bicycle, or foot, as well as by automobile; and*
- d. Provide buffers between residential and incompatible non-residential land uses.*

1.C.2. The County shall promote higher-density residential development along major transportation corridors and transit routes.

1.E.1. The County shall promote new industrial development that has the following characteristics:

- a. Adequate infrastructure and services;*
- b. Convenient connections to the regional transportation network, including connections to existing transit and other non-automobile transportation;*
- c. Sufficient buffering from residential areas to avoid impacts associated with noise, odors, and the potential release of hazardous materials;*
- d. Mitigable environmental impacts; and*
- e. Minimal adverse effects on scenic routes, recreation areas, and public vistas.*

Transit Policies

2.B.1. The County shall cooperate with transit providers to plan and implement additional transit services within and to the county that are timely, cost-effective, and responsive to growth patterns and existing and future transit demand.

2.B.2. The County shall consider the need for future transit right-of-way in reviewing and approving plans for development and roads and highways. Planning for new growth areas should incorporate

features to encourage transit and should reserve rights-of-way for future transit access. Rights-of-way may either be exclusive or shared with other vehicles.

- 2.B.3. The County shall pursue all available sources of funding for capital and operating costs of transit services.*
- 2.B.4. The County shall undertake, as funding permits, and participate in studies of inter-regional recreational transit services to Yosemite.*
- 2.B.5. The County shall consider the transit needs of senior, disabled, low-income, and transit-dependent persons in making decisions regarding transit services and in compliance with the Americans with Disabilities Act.*
- 2.B.6. The County shall encourage the development of facilities for convenient transfers between different transportation systems. (e.g., train-to-bus, bus-to-bus).*
- 2.B.7. The County shall require, where appropriate, that new development provide sheltered public transit stops, with turnouts. The County will also consider development of turnouts in existing developed areas when roadway improvements are made or as deemed necessary for traffic flow and public safety.*

Programs

- 2.11. The County shall work with the Madera County Transportation Commission in periodically reviewing and updating its short range transit plan at least as often as required by State law.*
- 2.12. The County shall continue to participate in planning for and implementing improved passenger rail service to Madera County.*
- 2.13. The County shall work with Caltrans and other agencies to determine the need for additional or expanded park-and-ride lots and to identify additional sites for such lots.*
- 2.14. The County shall assist transit planning agencies and transit providers in assessing transit demand and the adequacy of existing services.*
- 2.15. The County shall work with other agencies to identify and pursue funding for transit.*

Passenger Rail Policies

- 2.B.8. The County shall encourage and promote the use of passenger rail.*
- 2.B.9. The County shall support additional connecting services and service additions to rail service in the San Joaquin Valley. To this end, the County will encourage Amtrak to provide direct service from Madera County to the Sacramento and Los Angeles metropolitan areas.*
- 2.B.10. The County shall support the relocation of Amtrak service to the Southern Pacific Railroad lines to more directly serve the cities of Madera and Chowchilla.*

- 2.B.11. *The County shall support relocation of the Amtrak station to the an intermodal station in the city of Madera or other appropriate location.*

Programs

- 2.16. *As appropriate, the County shall adopt resolutions in support of local, state, and federal legislation and funding for rail service.*
- 2.17. *The County shall assist and participate in a project study with Caltrans and the Council of Fresno County Governments involving the possibility of using State Highway 41 for public transit purposes (e.g., light rail).*

Transportation Control Measures Policies

- 2.C.1. *The County shall promote transportation control measures (TCM) that divert automobile trips to transit, walking, and bicycling, through planning and provision of appropriate facilities and incentives.*
- 2.C.2. *The County shall continue to investigate and promote feasible land use and transportation strategies that will result in fewer automobile trips. To this end, the County shall encourage the concentration of urban development to maximize the feasibility of transit.*
- 2.C.5. *The County shall require that major development projects prepare transportation studies that address potential use of bicycle routes and facilities and the use of public transportation.*

New Growth Areas - Transportation Policies

- 2.G.1. *The County shall require that land use form and transportation systems in designated new growth areas be designed to provide residents and employees with the opportunity to accomplish many of their trips within the new growth area by walking, bicycling, and using transit.*

Air Quality -- Transportation/Circulation Policies

- 5.K.3. *The County shall encourage the use of alternative modes of transportation by incorporating public transit, bicycle, and pedestrian modes in County transportation planning and by requiring new development to provide adequate pedestrian and bikeway facilities.*
- 5.K.4. *The County shall endeavor to secure adequate funding for transit services so that transit is a viable transportation alternative. New development shall pay its fair share of the cost of transit equipment and facilities required to serve new projects.*

These policies and programs provide for development patterns in new growth areas that foster and accommodate public transit, provide for County support of and assistance to public transit providers, support improvements to existing Amtrak service to better serve Madera County residents, and include future transit studies for the areas of projected growth.

IMPACTS

The policies of the *General Plan* provide for encouragement of transit services and promote development in new growth areas at densities and alignments to foster transit use. Development in the rural areas of the county have historically occurred at low densities, largely due to environmental and safety considerations. These densities are not high enough to feasibly support public transit systems, although they could benefit from Dial-a-Ride services. The *General Plan* will cause no impacts on existing transit services and, because of the policies and programs listed above, will result in no unmet demand for transit services.

MITIGATION MEASURES

No additional mitigation beyond the policies and programs of the *Policy Document* are necessary.

4.3 NON-MOTORIZED TRANSPORTATION

As an alternative to the automobile, bicycles are non-polluting, quiet, inexpensive, and a readily available form of transportation. The combination of the bicycle's advantages and the public's increased interest in physical fitness has made the bicycle a much larger part of the transportation system than in the past. While much of Madera County's topography is not suitable for bicycling, bicycles can be used for many short commuting trips and for recreational purposes. In addition to bicycling, walking and horseback riding are other forms of non-motorized transportation.

ENVIRONMENTAL SETTING

Non-motorized transportation is described in Chapter 3 of the *Background Report*. In 1981-82, the Madera County Transportation Commission adopted the *County of Madera Commuter Bike Plan*, consisting of the *City of Madera Commuter Bike Plan*, *City of Chowchilla Commuter Bike Plan*, and *County of Madera Touring Guide*. These initial plans primarily identified bike routes for commuting riders and suggested improvements necessary to complete a local bikeway system. An important element of the 1982 *Commuter Bike Plan* was the inclusion of state highways in Madera County as adopted bicycle routes.

In 1991, the City and County of Madera received funding for a joint project involving the preparation of a comprehensive bike plan. When completed, this plan will address the needs of both commuting and recreational cyclists throughout the county, identify safe and convenient routes to key locations throughout the county, and suggest needed improvements and additions to bikeway routes and facilities. The plan is scheduled for publication and adoption during 1995.

There are also three efforts underway that would result in enhanced biking, walking, and horseback riding opportunities for Madera County residents. The first is the proposed Oakhurst River Parkway, which would provide a scenic walking path with pedestrian bridges, lighting, and observation decks along the Fresno River at Highway 41 to the Yosemite High School campus.

The second non-motorized trail effort underway is the proposed Chowchilla Bike and Hike Trail, which is a cooperative effort among the City of Chowchilla, Madera County, and private developers. The first phase of this project would provide a path along the lengths of the Berenda and Ash Sloughs connected by State Route 152 and Road 13. The second phase would be a northern extension bordered by the Chowchilla River to the north, Road 13 to the west, and Santa Fe Drive to the east. When completed, the path would offer a clearly designated route for cyclists, joggers, and recreational walkers. Construction is expected to begin in spring of 1994.

The third proposed project that would include opportunities for non-motorized transportation in the proposed San Joaquin River Parkway, which is a joint effort of the City of Fresno, Fresno and Madera Counties, and private developers. The project would create a "parkway" along the San Joaquin River from Friant Dam to Highway 99 in Fresno and Madera Counties. The parkway would provide an elongated park area and natural land that would provide a combination of low-impact recreational uses and wildlife protection. Recreational activities would likely include hiking, jogging, bicycling, swimming, canoeing, picnicking, fishing, golfing, informal play areas, equine riding, and nature observation. The Parkway is still in the design stages.

METHODOLOGY

This analysis of the effect of development on non-motorized transportation focuses on the creation and retention of opportunities for such transportation. There are, however, few facilities specifically intended for non-motorized transportation in unincorporated Madera County. This analysis, therefore, focuses on the provision of opportunities for such transportation in conjunction with future development.

Assumptions

1. Because of the generally dispersed, low-density development pattern anticipated by the *General Plan*, non-motorized transportation modes are not expected to be a significant part of Madera County's transportation network within the time frame of the *General Plan*.
2. Non-motorized transportation in Madera County will continue to serve mainly recreation purposes and will not provide significant opportunities for home-to-work commuting in most of the county. This type of commuting may be feasible at a small scale within the city of Madera and surrounding area, and within the Gunner Ranch West and Rio Mesa new growth areas if a good jobs and housing mix develops.

Thresholds of Significance

The California Environmental Quality Act does not specifically discuss non-motorized transportation as an issue to be addressed in the environmental review process. Furthermore, bicycling, walking, and horseback riding do not play an important role in Madera County's overall transportation system, primarily because of the generally rural nature of the county. For purposes of this *EIR*, an impact would be significant if development resulted in the unmet demand for non-motorized transportation opportunities.

IMPLICATIONS OF THE LAND USE DIAGRAM

Most of the development that could be permitted under the *Policy Document* would be of relatively low-density and would occur in areas where non-motorized transportation could not realistically be expected to become a prominent component of the transportation network. Accordingly, the *General Plan* would not result in significant impacts as a result of generating significant new unmet demand for non-motorized transportation opportunities. Development patterns in new growth areas are intended to provide the opportunity for non-motorized transportation to replace some types of automobile trips.

GENERAL PLAN POLICY RESPONSE

In anticipation of increased levels of development, both within and beyond the time frame of the *General Plan*, the *Policy Document* includes a substantial number of policies and programs intended to enhance opportunities for non-motorized transportation as development occurs. These policies and programs include the following:

Land Use Policies

- 1.B.2. The County shall require that the planning and design of new growth areas carries out the following objectives:*
- a. Concentrate higher-density residential uses and appropriate support services along segments of the transportation system with good road and possible transit connections to the remainder of the region;*
 - b. Support concentrations of medium and high-density residential uses and higher intensities of non-residential uses near existing or future transit stops along trunk lines of major transportation systems;*
 - c. Support the development of integrated mixed-use areas by mixing residential, retail, office, open space, and public uses while making it possible to travel by transit, bicycle, or foot, as well as by automobile; and*
 - d. Provide buffers between residential and incompatible non-residential land uses.*
- 1.C.8. The County shall require that residential subdivisions be designed to provide well-connected internal and external street, bikeway, and pedestrian systems.*
- 1.D.3. The County shall promote new commercial development that is designed to encourage and facilitate pedestrian circulation within and between commercial sites and nearby residential areas rather than being designed only to serve vehicular circulation.*
- 1.E.1. The County shall promote new industrial development that has the following characteristics:*
- a. Adequate infrastructure and services;*
 - b. Convenient connections to the regional transportation network, including connections to existing transit and other non-automobile transportation;*
 - c. Sufficient buffering from residential areas to avoid impacts associated with noise, odors, and the potential release of hazardous materials;*
 - d. Mitigable environmental impacts; and*
 - e. Minimal adverse effects on scenic routes, recreation areas, and public vistas.*

Transportation Control Measures Policies

- 2.C.1. The County shall promote transportation control measures (TCM) that divert automobile trips to transit, walking, and bicycling, through planning and provision of appropriate facilities and incentives.*
- 2.C.5. The County should require that major development projects to prepare transportation studies that address potential use of bicycle routes and facilities and the use of public transportation.*

Non-Motorized Transportation Policies

- 2.D.1. The County shall promote the development of a comprehensive and safe system of bicycle routes for short-range commuting and shopping trips and recreational uses. Bikeways should be constructed that will serve the greatest number of users.*

- 2.D.2. *The County shall cooperate with cities and neighboring jurisdictions to coordinate planning and development of the County's bikeways and multi-purpose trails with those of neighboring jurisdictions.*
- 2.D.3. *New bikeways should be linked with other bikeways, bicycle rest stops, and parks to provide safe and continuous routes.*
- 2.D.4. *The County shall encourage the provision for bicycle routes along state highways. Where this occurs, automobile and bicycle facilities should be separated.*
- 2.D.5. *The County shall pursue all available sources of funding for the development and improvement of trails for non-motorized transportation (bikeways, pedestrian, and equestrian).*
- 2.D.6. *The County shall promote non-motorized travel (bikeways, pedestrian, and equestrian) through appropriate facilities, programs, and information, including through the school system and local media.*
- 2.D.7. *The County shall require that developers finance and install pedestrian walkways, equestrian trails, and multi-purpose paths in new development, as appropriate.*
- 2.D.8. *The County shall support the development of parking areas near access to hiking and equestrian trails.*

Programs

- 2.19. *The County shall prepare a Bicycle Master Plan jointly with the City of Madera consistent with the City and County General Plans.*
- 2.20. *The County shall require that bikeways recommended in the Bicycle Master Plan be developed when roadway projects are constructed and when street frontage improvements are required of new development.*
- 2.21. *The County shall develop and adopt standards for bicycle, pedestrian, and equestrian facilities. These standards should vary by types of land use and terrain. Until such standards are adopted, the County shall continue to use state standards as guidelines for construction of bicycle lanes and bicycle trails.*

New Growth Areas - Transportation Policies

- 2.G.1. *The County shall require that land use form and transportation systems in designated new growth areas be designed to provide residents and employees with the opportunity to accomplish many of their trips within the new growth area by walking, bicycling, and using transit.*

Schools Policies

- 3.I.5. *The County shall encourage the location of schools in areas with safe pedestrian and bicycle access.*

Recreational Trails Policies

- 4.C.1. *The County shall support development of a countywide trail system*
- 4.C.2. *The County shall encourage the preservation of linear open space along rail corridors and other public easements for future use as trails.*
- 4.C.3. *The County shall promote the development of a public trail system in connection with development of the San Joaquin River Parkway.*

Programs

- 4.2. *As new development occurs, the County shall consider forming county service areas (CSAs) that have the authority to receive dedications or grants of land or funds, plus the ability to charge fees for acquisition, development, and maintenance of parks, open space, and riding, hiking, and bicycle trails.*
- 4.3. *The County should prepare and periodically update a trails plan in conjunction with each area plan and/or specific plan. Trails plans should designate trail components for equestrians, hikers, and cyclists on mountain and non-mountain bikes; contain trail design, access, and construction standards; establish specific plan lines for trails; and identify financing options.*

Air Quality -- Transportation/Circulation Policies

- 5.K.3. *The County shall encourage the use of alternative modes of transportation by incorporating public transit, bicycle, and pedestrian modes in County transportation planning and by requiring new development to provide adequate pedestrian and bikeway facilities.*

These policies and programs provide that new growth areas and new commercial and industrial development and schools are designed to encourage access by bicycle or foot, encourage the development of bicycle routes and a bike plan linking communities in Madera County, and support development of trails systems.

IMPACTS

The *General Plan*, provides for and encourages non-motorized transportation and will result in no unmet demand for non-motorized transportation opportunities.

MITIGATION MEASURES

Because the *General Plan* would result in no impacts on non-motorized transportation, no mitigation measures are necessary.

4.4 AIR TRANSPORTATION

This section assesses the potential effects of development under the *General Plan* on opportunities for air transportation in Madera County.

ENVIRONMENTAL SETTING

Chapter 3 of the *Background Report* summarizes existing air transportation services available in Madera County. Air transportation service in Madera County is provided by a number of private and public airfields serving general aviation and agricultural users. Within Madera County, there are two general aviation, publicly-owned municipal airports and 32 private airstrips; scheduled passenger service is not available from either municipal airport. Commercial flights to distant or out-of-state destinations are available at Fresno Air Terminal, approximately 25 miles southeast of the city of Madera. Limited connecting service to other cities is also available in Merced County at Merced Municipal Airport.

State law encourages public access airports to develop Airport Land Use Plans, designating airport vicinity land use and clear zones. Such plans are to be adopted by the County's Airport Land Use Commission (ALUC). The Madera County ALUC has prepared and adopted the *Airport Land Use Compatibility Plan*, which applies to the Madera Municipal Airport and the Chowchilla Municipal Airport and provides guidance for ALUC review of proposed new airports and heliports.

Chowchilla Municipal Airport

The Chowchilla Municipal Airport is located at the southeast end of the city of Chowchilla. The Chowchilla Airport serves single engine and light, twin-engine propeller aircraft. A significant percentage of the operations by single-engine aircraft are by aerial applicator (crop duster) aircraft. Because the airport's location near residential development, aerial applicator aircraft normally use tight landing and departure patterns to avoid overflying residences.

Approximately 15 aircraft are based at the airport with annual operations estimated at 18,200 in 1989 and projected at 21,000 in the year 2011.

Madera Municipal Airport

The Madera Municipal Airport is located within the Madera city limits and is owned and operated by the City of Madera. The airport is located in the northwest part of the city, approximately three-quarters of a mile from Highway 99. The Madera Municipal Airport serves single and twin-engine, piston aircraft, twin-engine turbo prop aircraft (both business and airline training), and less frequently, turbojets and helicopters. An aerial applicator (crop duster) is based at the airport.

Approximately 100 aircraft are based at the airport with annual operations estimated at 65,000 in 1989, and annual operations of 100,000 are projected by 2010.

The City of Madera has an adopted Airport Master Plan to govern the development of the airport that is consistent with the ALUC's *Airport Land Use Compatibility Plan*.

Proposed Eastern Madera County Airport

Since the early 1960s, Madera County has been involved in airport site planning to satisfy the need for a public use, general aviation airport in Eastern Madera County. After the Bass Lake Airport was closed in the 1960s due to safety hazards and inability to expand, the siting of a new airport near Oakhurst was suggested.

In 1990, the County retained consultants to prepare a *Site Identification and Feasibility Study*. This study initially identified 19 possible sites for a new airport, and reduced the list to two sites based on further evaluation. The two sites are Allen Ridge, identified as a possible location for some time, and Veater Ranch. The Allen Ridge site was recommended as the preferred location. If the County decides to move ahead with construction of an airport, preparation of an environmental impact report and site master plan would be necessary. Federal, state, and local funds, as well as private investment, would be necessary to construct an airport facility.

METHODOLOGY

This analysis of the effect of development under the *General Plan* on air transportation focuses on the capacity of existing general purpose airports in Madera County to accommodate increased demand resulting from development under the *General Plan*.

Assumptions

1. While Madera County's two general aviation airports are municipally-owned and -operated and within the city limits of Chowchilla and Madera, the County controls land use regulations for unincorporated areas affected by airport operations.
2. The Madera County Airport Land Use Commission has independent authority to control development within and immediately adjacent to the county's two airports, although cities and counties may override their decisions with a supermajority and adoption of specified findings. The Commission's policies are described in the *Airport Land Use Compatibility Plan*, which was adopted in November 1993.
3. Land use compatibility studies will be conducted prior to development of any airport in Eastern Madera County and any necessary amendments to the General Plan will be made in response to the siting decision.

Thresholds of Significance

New development authorized by the *Madera County General Plan* will have a significant impact if it conflicts with the policies of the Madera County Airport Land Use Commission, as expressed in the *Airport Land Use Compatibility Plan*.

IMPLICATIONS OF THE LAND USE DIAGRAM

The designations on the *Land Use Diagram* are consistent with those in the *Madera County Airport Land Use Compatibility Plan*. Based on the information provided in the *Airport Land Use Compatibility Plan*, it is not clear whether the development assumptions upon which the operations forecasts for the Chowchilla and Madera Airports are based are consistent with the 2010 development estimates prepared for the *General Plan*.

GENERAL PLAN POLICY RESPONSE

The following policies and programs from the *Policy Document* address concerns related to development with the potential to affect Madera County's airports.

Residential Land Use Policies

- 1.C.6. *The County shall ensure that residential land uses are separated and buffered from such major facilities as landfills, airports, and sewage treatment plants.*

Air Transportation Policies

- 2.F.1. *The County shall support the continued use of the Madera Municipal Airport and the Chowchilla Municipal Airport as general purpose airports.*
- 2.F.2. *The County shall provide for adequate ground access to the Madera and Chowchilla municipal airports in County transportation planning and improvements.*
- 2.F.3. *The County shall work with the Airport Land Use Commission in the planning of land uses around the Madera Municipal Airport and the Chowchilla Municipal Airport to ensure protection of airport operations from urban encroachment.*
- 2.F.4. *The County shall prohibit development in the existing Runway Protection Zones as identified in the Airport Land Use Commission's Airport Land Use Compatibility Plan.*
- 2.F.5. *The County shall require discretionary approval of all new private landing strips and helicopter landing sites.*
- 2.F.6. *The County shall support the development of an eastern county mountain airport in an acceptable location if proven to be feasible. At such time as the airport is determined to be feasible, the County shall pursue federal, state, local, and private funding sources for its construction.*

Programs

- 2.24. *The County shall submit applications for new development within a two-mile radius of the Madera and Chowchilla Municipal Airports to the Airport Land Use Commission for its review for compatibility with airport operations, unless such development is found to be consistent with the Airport Land Use Compatibility Plan.*
- 2.25. *The County shall submit applications for new private landing strips and helicopter landing sites to the Airport Land Use Commission, Caltrans Division of Aeronautics, and Federal Aviation Administration for their review.*
- 2.26. *The County shall submit applications for construction or alteration of structures taller than 150 feet to the Airport Land Use Commission for its review.*

Airport Hazards Policies

- 6.D.1. *The County shall ensure that new development around airports does not create safety hazards such as lights from direct or reflective sources, smoke, electrical interference, hazardous chemicals, or fuel storage in violation of adopted safety standards.*
- 6.D.2. *The County shall limit land uses in airport safety zones to those uses listed in the applicable airport comprehensive land use plans (CLUPs) as compatible uses. Exceptions shall be made only as*

provided for in the CLUPs. Such uses shall also be regulated to ensure compatibility in terms of location, height, and noise.

Programs

- 6.7. *The County shall review all development projects within the overflight zones of Madera County airports for consistency with applicable airport comprehensive land use plans (CLUPs).*

IMPACTS

The policies and programs listed above ensure that development in the unincorporated area of Madera County will be consistent with the plans and policies of the Madera County Airport Land Use Commission. Accordingly, anticipated development under the *General Plan* will result in no adverse impacts on air transportation in Madera County.

MITIGATION MEASURES

Because no adverse impacts on air transportation in Madera County will result from implementation of the *General Plan*, no mitigation measures are necessary.

CHAPTER 5

PUBLIC FACILITIES AND SERVICES

This chapter assesses the potential impacts of development under the *General Plan* on Madera County's public facilities and services. The issues addressed in the chapter are water, wastewater, drainage and flood control, law enforcement, fire protection, utility services, and schools.

5.1 WATER SUPPLY, TREATMENT, AND DELIVERY

ENVIRONMENTAL SETTING

Chapter 4 of the *Background Report* describes water supply, treatment, and delivery systems in Madera County. For each of the eight geographic analysis areas, Table 5-1 summarizes the public water supply, treatment, and delivery methods currently being used (e.g., large community systems, small community systems, or groundwater and wells) and summarizes current use and capacity.

TABLE 5-1			
WATER SUPPLY, TREATMENT, AND DELIVERY SYSTEMS			
Madera County			
Analysis Area	Large Community Systems	Small Community Systems	Groundwater & Wells
West/Agriculture	There are no large community systems in this part of the county.	MD-28: Ripperdan: There are 16 parcels within the community water and sewer system with all 16 parcels improved. The water system includes one well with two pumps, a hydro-pneumatic tank and distribution mains. One other well was destroyed due to DBCP contamination. MD-36: Eastin Arcola: This district serves 17 parcels, with 16 improved and 1 vacant. The water system includes two wells with a hydro-pneumatic tank. There are no water quantity or quality problems. MD-37: La Vina: This area has 69 active connections and 1 vacant lot. The system includes two wells with hydro-pneumatic tanks. There are no quantity or quality problems. Eastside Acres (Firebaugh): This is a private water system with 79 connections served by wells.	Most of this area's water is supplied by individual, private wells. The area is largely agricultural. Ground-water levels in this area have been declining steadily for years, between 10 and 120 feet over the last 30 years. Data is not readily available to determine the number of wells that go out of production that must be replaced by new wells due to drawdown of the water table.

TABLE 5-1 (Continued)

WATER SUPPLY, TREATMENT, AND DELIVERY SYSTEMS
Madera County

Analysis Area	Large Community Systems	Small Community Systems	Groundwater & Wells
Chowchilla/Fairmead	Chowchilla (City) Water: This water system supplies the city of Chowchilla and currently has about 2,200 connections. Central California Women's Facility (State Prison): This system supplies only the state prison, with a 1994 population of 3,250. Water is provided by groundwater.	MD-33: Fairmead: This maintenance district includes 140 active connections and 87 vacant lots. The water system has one well with the capability of utilizing the Fairmead Elementary School well; one hydro-pneumatic tank and emergency power backup. Future development in the area will require additional supply. MD-85: Valeta: This area serves 21 connections and is virtually built out.	A large portion of this area's (though not population's) water supply is derived from individual, private wells. Area outside the defined urban areas is largely agricultural. The groundwater table has declined 10 to 120 feet over the last 30 years. Data is not readily available to determine the number of wells that go out of production and must be replaced by new wells due to water table drawdown.
Madera	Madera (City) Water: This system supplies the city of Madera and some adjacent properties. In 1993 there were 8,419 "flat-rate" connections and 342 metered connections. Additional wells are added as demand increases. SA-3: Parksdale: There are 539 parcels within this area, with 471 improved and 68 vacant. The water system features two wells with hydro-pneumatic tanks. There have been no problems with water quality or quantity. Madera Valley Water Co.: This system supplies water to the suburban area north of the city of Madera. MD-19A: Parkwood: There are 266 parcels, all of which are improved. The water system has four wells with hydro-pneumatic tanks. The system has no quality or quantity problems. MD-19B: Parkwood: Within this area are 266 active connections and 30 vacant lots. The water system utilizes the MD-19A system as its supply of water, purchasing the water from MD-19A. There are no quantity or quality problems.	There are no small community systems in this part of the county.	Some of this area's water supply is derived from individual, private wells. Like the other areas in the valley part of Madera County, the ground-water table has been declining. Data is not readily available to determine the number of wells that go out of production and must be replaced by new wells due to drawdown of the water table.

TABLE 5-1 (Continued)

WATER SUPPLY, TREATMENT, AND DELIVERY SYSTEMS
Madera County

Analysis Area	Large Community Systems	Small Community Systems	Groundwater & Wells
Raymond/Central	Raymond (Hillview Water District): This is a private system that serves 69 residential connections.	MD-5: Mountain Ranches: There are a total of 55 lots, with 10 improved and 45 vacant. There is a 40,000 gallon water storage tank and one well. The system has very little use due to very low build out and has experienced no problems. The well was deepened in April 1992 due to low water production caused by the drought condition. SA-14: Chukchansi: There are a total of 31 parcels; all of them improved. The water system includes one well located within the confines of privately owned property west of the subdivision. The water storage tank which holds approximately 60,000 gallons and the hydro-pneumatic tank are located within the subdivision. Pacific Gas and Electric Company has installed a new power service to eliminate the recurrent power outages and water shortages.	Most of this area's water supply is derived from individual, private wells. The area is largely agricultural. Groundwater in this area has been declining over the last 30 years, and some areas are identified as serious water table depression areas (see <i>General Plan Background Report</i>). Data is not readily available to determine the number of wells that go out of production and must be replaced by new wells due to drawdown of the water table.

TABLE 5-1 (Continued)

WATER SUPPLY, TREATMENT, AND DELIVERY SYSTEMS
Madera County

Analysis Area	Large Community Systems	Small Community Systems	Groundwater & Wells
South 41 Corridor	MD-1: Hidden Lakes: There are a total of 218 parcels, 26 improved and 192 vacant. Water from Millerton Lake is pumped into a 110,000 gallon storage tank, treated by a filtration plant and chlorinated. Water is limited due to the 60 gallon per minute (gpm) capacity of the filtration plant. Summer usage has caused periodic shortages. SA-19: Rolling Hills: There are a total of 364 parcels, 317 improved and 47 vacant. The water system includes two wells, hydro-pneumatic tanks and chlorination equipment. Well #1 produces 1,100 gpm, and well #2 produces 550 gpm. There are no water problems relating to quantity or quality and the current facilities should be adequate for subdivision build out. Madera Ranchos: Madera Ranchos is served by a private water system supplied by groundwater wells. The system has 786 connections.	SA-16: Sumner Hill: There are a total of 49 parcels, 26 improved and 23 vacant. The water system consists of one well, one 83,000 gallon storage tank and two boost pumps, with a 6,000 gallon hydro-pneumatic tank. Currently underway is a project to bring in a secondary source of water (San Joaquin River) and a filtration plant, which will double the capacity of the water treatment to 200 gpm. This project will overcome the summer water shortages. There have been very minor problems with water quality.	Most of this area's water supply is derived from individual, private wells. The area is largely agricultural. The groundwater table has declined 10 to 120 feet over the last 30 years. Data is not readily available to determine the number of wells that go out of production and must be replaced by new wells due to drawdown of the water table.

TABLE 5-1 (Continued)

WATER SUPPLY, TREATMENT, AND DELIVERY SYSTEMS
Madera County

Analysis Area	Large Community Systems	Small Community Systems	Groundwater & Wells
North 41 Corridor	Hillview Water Co.: The community of Oakhurst is served by the Hillview Water Company. There are approximately 1200 connections to this system. Additional wells are added as new customers are added to the system. Yosemite Lakes Park: The Yosemite Lakes Park is served by the Yosemite Lakes Park Water System. There are 1,280 connections to this system. As the subdivision continues to build out to its total of approximately 2200 lots, more wells are drilled to accommodate the increased demand. SA-1: Indian Lakes: Within the subdivision are 521 parcels with 380 improved and 141 vacant. The current system includes four wells: well #1 produces 104 gpm; well #3 produces 55 gpm; well #4 produces 65 gpm; well #5 produces 300 gpm. The storage tank is 160,000 gallons with a 10,000 gallon hydro-pneumatic tank. The system uses two boost pumps to maintain pressure at the higher elevation parcels. In the lower areas, pressure reducing valves are used to control pressure. The system is currently undergoing evaluation regarding improvements in the areas of storage capacity, fire flow and drinking water standards concerning iron and manganese levels, which cause a discoloration of the water. In 1989 well #5 was drilled, solving the water quantity problem.	MD-6: Lakeshore Park: Within the subdivision are 49 parcels, 42 improved and 7 vacant. There is a 95,000 gallon water storage tank which holds the water produced by two wells, both of which pump 22 gpm each. The water is not potable - in that it does not meet radiological standards. MD-7: Marina View: There are a total of 91 parcels, 67 improved and 24 vacant. The source of water is from two wells; well #1 pumps 23 gpm, while well #2 pumps 20 gpm, both of which pump water into a 103,500 gallon water storage tank. The water is not potable, in that it does not meet radiological standards. MD-24: Teaford Meadows: There are a total of 67 parcels, 50 improved and 17 vacant. The water system has a 125,000 gallon storage tank which stores water delivered from three wells: well #1 produces 5.5 gpm, well #2 produces 12 gpm, and well #3 produces 5.5 gpm. Well #2 was deepened in 1989 and the pump and motor were replaced in 1990. The system had problems earlier complying with radiological standards but currently is operating within limits. MD-40: Sunset Ridge: Within this area are 24 parcels, 13 are improved and 11 are vacant. Seven wells have been drilled; Five have been capped for future use. Well #7 is the primary source and well #5 is the secondary source. There are two 6,000 gallon water storage tanks. The main water lines are only 2 inches, and therefore are undersized to provide fire flow.	Much of this area's water supply is derived from individual, private wells, drawing often from rock fracture systems instead of a defined water table. The area is largely rural residential. Data is not readily available to determine the number of wells that go out of production and must be replaced by new wells.

TABLE 5-1 (Continued)

WATER SUPPLY, TREATMENT, AND DELIVERY SYSTEMS
Madera County

Analysis Area	Large Community Systems	Small Community Systems	Groundwater & Wells
North 41 Corridor (Continued)	MD-73: Quartz Mountain: Within this area are 90 parcels, with only 7 parcels improved. This district is in the process of being annexed to SA-1, Indian Lakes. Bass Lake Water Company: This is a private system supplied by surface water, with 786 connections. Coarsegold Highlands (Hillview Water District): This is a private water system supplied by groundwater wells, serving 21 connections currently. Goldside Estates (Hillview Water District): This is a private water system supplied by groundwater wells, with 228 water connections. Sierra Lakes (Hillview Water District): This is a private water system supplied by groundwater wells, with 797 residential connections.	MD-42: Still Meadows: There are 37 parcels within this district with 14 improved and 23 vacant. The water system includes two wells and two 25,000 gallon storage tanks. One well has been shut down due to radiological contamination. MD-43: Miami Creek Knolls: This area serves 26 parcels; all are improved. Some problems with radon gas have been seen in wells in this area. MD-46: Ahwahnee Country Club: This area serves 79 residential parcels and 3 commercial parcels. Only 6 residential parcels are improved as of 1994. Dillon Estates: This is a private water system supplied by groundwater wells. Broadview Terrace: This is a private water system supplied by groundwater wells. Bass Lake Heights: This is a private water system with 70 connections, supplied by groundwater wells. Yosemite Forks: This is a private water system with 45 connections, supplied by spring water.	
North Fork/Millerton	MD-8A: North Fork: A new water system is pending.	Cascadel: This is a private water company with 35 connections, served by spring water.	Much of this area's water supply is served by individual, private wells, drawing often from rock fracture systems instead of a defined water table. The area is largely rural residential in nature. Data is not readily available to determine the number of wells that go out of production that must be replaced by new wells.

TABLE 5-1 (Continued)

WATER SUPPLY, TREATMENT, AND DELIVERY SYSTEMS
Madera County

Analysis Area	Large Community Systems	Small Community Systems	Groundwater & Wells
East/National Forest	There are no large community systems in this part of the county.	High Sierra Meadows: This is a private water systems supplied by groundwater wells, serving 20 connections. Central Camp: This is a private water system supplied by groundwater wells. Beasore Meadows: This is a private water system supplied by groundwater wells.	Most of this area's water supply is served by individual, private wells. The area is largely agricultural or forested open space. Data is not readily available to determine the number of wells that go out of production that must be replaced by new wells.

Source: Madera County Engineering and General Services, May 1994.

METHODOLOGY

Assumptions

1. This analysis assumes each dwelling unit will generate average demand for 450 gallons of potable water per day (i.e., 150 gallons per day per bedroom, assuming a three bedroom house).
2. Since nonresidential development's water use varies greatly, water requirements will be determined on a case-by-case basis by actual occupancy and operations; accordingly, this analysis does not attempt to estimate nonresidential water use.
3. Agricultural water use is assumed to remain constant except where converted to urban or suburban uses.

Thresholds

For purposes of this EIR, impacts are considered significant if adoption or implementation of the plan could result in the approval of development without adequate system capacity or the ability to add capacity through facility expansion or the addition of wells, or if the water supply is not adequate to serve projected new development.

IMPLICATIONS OF THE LAND USE DIAGRAM

Table 5-2 shows existing water demand and estimated future demand based on development estimates for the year 2010 and buildout of the *Land Use Diagram* for each of the eight geographic analysis areas.

TABLE 5-2
ESTIMATED RESIDENTIAL WATER DEMAND
1990, 2010, and Buildout

Geographic Area	1990		2010		Buildout	
	Units	Water Demand (gpd)	Units	Water Demand (gpd)	Units	Water Demand (gpd)
West Agriculture	2,288	1,029,600	3,396	1,528,200	4,636	2,086,200
Chowchilla/Fairmead	3,082	1,386,900	4,769	2,146,050	9,227	4,152,150
Madera	13,519	6,083,550	27,382	12,321,900	49,563	22,303,350
Raymond/Central	763	343,350	1,251	562,950	6,728	3,027,600
South 41 Corridor	2,697	1,213,650	9,877	4,444,650	39,769	17,896,050
North 41 Corridor	7,459	3,356,550	13,489	6,070,050	33,444	15,049,800
North Fork/Millerton	992	446,400	1,626	731,700	4,404	1,981,800
East/National Forest	0	0	400	180,000	640	288,000
Total	30,800	13,860,000	62,190	27,985,500	148,411	66,784,950

Source: Madera County Engineering and General Services, May 1994.

Following are area-by-area descriptions of the implications of development under the *Land Use Diagram* for water supply and delivery.

West/Agriculture

Water use in this area will primarily be related to agricultural irrigation. Non-agricultural uses in this area will continue be served by individual wells. Since there are no "systems" involved, no expansion of any system is planned or necessary.

Capacity to accommodate demand is dependent upon the water table. Chapter 6 of the *Background Report* describes the groundwater supply and historic declines. Groundwater levels dropped between 10 and 120 feet from 1960 to 1990. The Madera Irrigation District monitors groundwater depth, but no information is available concerning the overall availability of water within the basin and at what time the continued groundwater table decline may have serious implications for water quality and supply.

Chowchilla/Fairmead

Services to accommodate future demand will probably result in the expansion of both the Chowchilla Water System and MD-33 water system. Usually, as development takes place, new development is responsible for financing necessary expansion of the system, through the addition of wells. Again, no information is available concerning long-term groundwater supply.

Madera

Services to accommodate future demand will result in the expansion of the Madera City water system. Usually, as development takes place, new development is responsible for financing necessary expansion of the system, through the addition of wells. Again, no information is available concerning long-term groundwater supply.

Raymond/Central

Some expansion of the Raymond water system will take place to serve new development, while most of this area will continue be served by individual wells. Capacity to accommodate demand is dependent upon the water table. Some areas within the Raymond/Central area have serious groundwater table depression.

South 41 Corridor

The Madera Ranchos, Bonadelle Ranchos, Rolling Hills, and Sumner Hill subdivisions depend on water systems or individual wells. Some expansion of these water systems will be required as these subdivisions build out.

New development within new growth areas will require the creation of new water systems and expansion of existing systems, with some new individual wells being used in the interim. Development in the Rio Mesa new growth area is proposed to develop a surface water supply and treatment system.

North 41 Corridor

Large portions of this area will continue be served by individual wells. Other areas are quite urban and services to accommodate future demand will result in the expansion of the appropriate water system. Usually, as development takes place, new development is responsible for financing necessary expansion of the system, through the addition of wells. Water supply is provided by groundwater and springs; no information is available concerning available water supply in the area. Developing this information is extremely difficult given the nature of the groundwater systems in the area.

North Fork/Millerton

The majority of this area will continue be served by individual wells. Expansion of the North Fork water system will probably be required. Usually, as development takes place, new development is responsible for financing necessary expansion of the system, through the addition of wells. Again, no information is available concerning long-term groundwater supply.

East/National Forest

This area will continue be served by individual wells or small water systems. Only limited development is proposed in this area.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes policies and implementation measures to address the effect of development on water systems. The following policies and programs address the implications of the *Land Use Diagram* for water supply, treatment, and delivery.

General Public Facilities and Services Policies

- 3.A.1. *The County shall ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the applicant can demonstrate that all necessary public facilities will be installed or adequately financed and maintained (through fees or other means).*
- 3.A.2. *The County shall ensure that public facilities and services are developed and operational as they are needed to serve new development.*
- 3.A.3. *The County shall require new urban development to be served by community sewer and water systems where such systems are available or can feasibly be provided.*
- 3.A.4. *The County shall discourage expansion of rural communities unless necessary services can be provided.*
- 3.A.5. *The County shall require detailed public facility planning as part of the area plans for designated new growth areas.*
- 3.A.6. *The County shall encourage the placement of irrigation canals underground as urban development takes place.*

Programs

- 3.1. *The County shall establish an annual monitoring and reporting program to evaluate facility capacity and service levels.*
- 3.2. *The County shall ensure that capital improvement programs (CIPs) or area facilities plans are prepared in conjunction with new area plans and specific plans and are reviewed annually and updated as needed. These CIPs should identify improvement needs for the succeeding five-year period.*

Public Facilities and Services Funding Policies

- 3.B.1. *The County shall require that new development pay its fair share of the cost of developing new facilities and services and upgrading existing public facilities and services subject to the requirements of California Government Code Section 66000 et seq. (AB 1600); exceptions may be made when new development generates significant public benefits (e.g., low income housing) and when alternative sources of funding can be identified to offset foregone revenues.*
- 3.B.2. *The County shall seek broad-based funding sources for public facilities and services that benefit current and future residents of the county.*

Programs

- 3.4. *The County shall develop and adopt ordinances specifying acceptable methods for new development to pay for new capital facilities and expanded services. Possible mechanisms include development*

fees, assessment districts, land/facility dedications, county service areas, and community facilities districts.

- 3.5. *The County shall adopt and periodically update fee schedules for new development to fund needed public facilities and services.*

Domestic Water Supply Policies

- 3.C.1. *The County shall approve new development only if an adequate water supply to serve such development is demonstrated.*
- 3.C.2. *The County shall approve new development based on the following guidelines for water supply:*
- a. Urban and suburban development should rely on community water systems*
 - b. Rural communities should rely on community water systems. Individual wells may be permitted in cases where no community water system exists or can be extended to the property but development will be limited to densities which can be safely developed with wells.*
 - c. Agricultural areas should rely on public water systems where available, otherwise individual water wells are acceptable.*
- 3.C.3. *The County shall limit development in areas identified as having severe water table depression to uses that do not have high water usage or to uses served by a surface water supply.*
- 3.C.4. *The County shall require that water supplies serving new development meet state water quality standards.*
- 3.C.5. *The County shall require that new development adjacent to bodies of water used as domestic water sources adequately mitigate potential water quality impacts on these water bodies.*
- 3.C.6. *The County shall promote efficient water use and reduced water demand by:*
- a. Requiring water-conserving design and equipment in new construction;*
 - b. Encouraging water-conserving landscaping and other conservation measures;*
 - c. Encouraging retrofitting existing development with water-conserving devices; and*
 - d. Encouraging use of recycled or grey water for landscaping.*
- 3.C.7. *The County shall promote the use of reclaimed wastewater to offset the demand for new water supplies.*
- 3.C.8. *The County shall support opportunities for groundwater users in problem areas to convert to surface water supplies.*
- 3.C.9. *The County shall promote the use of surface water for agricultural use to reduce groundwater table reductions.*

Agricultural Water Supply Policies

- 3.C.10. *The County shall encourage water conservation by farmers. To this end, the County support efforts to provide information on irrigation practices through the Agricultural Commissioner and U. C.*

Cooperative Extension. The County shall also support conservation efforts of the California Farm Bureau, U. S. Soil Conservation Service, resource conservation districts, and irrigation districts.

3.C.11. The County shall support programs for the agricultural re-use of reclaimed water.

3.C.12. The County shall work with local irrigation districts to preserve local water rights. The County shall oppose public and private sales of water rights to users outside Madera County.

IMPACTS

Virtually all non-agricultural development in the county is dependent upon groundwater supplies. Based on historic experience, it is assumed that continued agricultural water use combined with municipal use of groundwater in the valley will continue to lead to decline in the groundwater table. If or when such a decline will lead to overdraft problems or increased water quality problems it unknown. The ability of agricultural users to sell surface water to users outside the county could increase agricultural use of groundwater, as farmers replace sold surface water with groundwater use. Because the long-term availability of groundwater in the valley is unknown, the impact is considered potentially significant.

Long-term supplies of groundwater in the foothills and mountains is also unknown. In the 1969 General Plan, the County proposed developing a surface water supply to serve the area. While the County requires individual developments to provide proof of sufficiency of groundwater, the cumulative impacts of development in the foothills and mountains on groundwater supply is unknown, and is therefore considered potentially significant.

MITIGATION MEASURES

Water availability for agricultural and urban uses is an issue of statewide concern. A regional groundwater basin study and monitoring program and management of the valley's groundwater resources if drawdown poses a risk would address the impacts on valley groundwater basin. As this is a regional issue and regulation of groundwater poses complex legal issues, the County cannot unilaterally guarantee that the groundwater supply will be adequate, therefore this impact is still considered potentially significant.

Water supply uncertainty in the foothills and mountains can probably not be resolved. Development of a surface water supply would address this issue, but would be extremely difficult to accomplish and finance. This impact is therefore still considered potentially significant.

5.2 WASTEWATER TREATMENT AND DISPOSAL

ENVIRONMENTAL SETTING

Chapter 4 of the *Background Report* describes existing wastewater treatment and disposal systems in Madera County. For each of the eight geographic analysis areas, Table 5-3 summarizes the wastewater treatment and disposal methods currently being used (e.g., public systems or onsite systems) and summarizes current use and capacity.

TABLE 5-3
WASTEWATER TREATMENT AND DISPOSAL
Madera County

Analysis Area	Public Systems	On-Site Systems
West Agriculture	MD-28: Ripperdan: There are 16 parcels served by the community water and sewer system with all 16 parcels improved. The sewer system is a 7,500 gpd extended aeration type with 15 seepage pits for plant effluent disposal. Due to minor problems with the disposal system, the County has installed additional seepage pits. MD-36: Eastin Arcola: This community water and sewer district has 16 improved and 1 vacant parcel. The sewer system uses septic tank and seepage pits, with residents paying the County a quarterly fee for septic system maintenance. MD-37: La Vina: This area has 69 active connections and 1 vacant lot. The sewage system has common septic tanks with seepage pits which have worked well. Self Help has recently enlarged the wastewater facility to accommodate 23 additional dwelling units.	Onsite disposal is allowed on lots larger than ½ acre if the water supply for that lot comes from a public water system. Lots with both onsite sewer and water must be at least 1 acre in size. A minimum 1200 gallon septic tank (for a one or two bedroom house) is required, though a 1500 gallon tank is typically installed because the cost is the same and the larger tank can handle up to four bedrooms. Typically, seepage pits are required. Occasionally leach lines can be used instead of seepage pits if soil conditions allow. Madera County issues permits for onsite systems and performs inspections.
Chowchilla/Fairmead	Chowchilla Sewage System: The City of Chowchilla operates the only public system in this area. This system currently has about 2,200 connections and capacity for about 400 more. The City of Chowchilla projects available capacity for the next five to ten years.	Onsite disposal is allowed on lots larger than ½ acre if the water supply for that lot comes from a public water system. Lots with both onsite sewer and water must be at least 1 acre in size. A minimum 1,200 gallon septic tank is required, though a 1,500 gallon tank is typically installed. Typically, seepage pits are required. Leach lines can occasionally be used instead of seepage pits if the soil conditions allow. Madera County issues permits for onsite systems and performs inspections. The Fairmead area, while served with a water system, relies exclusively on onsite sewage disposal. Some proposed subdivisions north of Fairmead are planning sewer treatment plants. It was determined not to attempt to include the existing area of Fairmead in forming a sewer district, as the population could not afford the debt service on the bonds. There is a high default rate in the area on the existing water service charges.

TABLE 5-3 (Continued)

WASTEWATER TREATMENT AND DISPOSAL
Madera County

Analysis Area	Public Systems	On-Site Systems
Madera	City of Madera Sewer System: The system and treatment plant serves the city of Madera and significant adjacent development. Built as a regional wastewater treatment facility, the plant has a capacity to treat seven million gallons per day (7.0 mgpd) and is currently treating about 4.5 mgpd (approximately 65% capacity). MD-19A: Parkwood: This district serves 266 parcels, all of which are improved. The sewage system is an older extended aeration type with percolation/evaporation ponds and is operating at near capacity. It experiences only minimal problems. SA-3: Parksdale: There are 539 parcels within this area, with 471 improved and 68 vacant. The County contracts with the City of Madera to pump sewer effluent from this area to the City's treatment plant to a limit of 540,000 gpd, at a set fee per connection.	Onsite disposal is allowed on lots larger than ½ acre if the water supply for that lot comes from a public water system. Lots with both onsite sewer and water must be at least 1 acre in size. A minimum 1,200 gallon septic tank is required, though a 1,500 gallon tank is typically installed. Typically, seepage pits are required. Leach lines can occasionally be used instead of seepage pits if soil conditions allow. Madera County issues permits for onsite systems and performs inspections.
Raymond/Central	SA-14: Chukchansi: There are a total of 31 parcels in this area, with all of them improved. The sewage system consists of a pump station and a four pond sewage lagoon. Lately, the wetter season has caused an oversaturation of the soil and a leaching of effluent to the west side of the ponds.	Onsite disposal is allowed on lots larger than ½ acre if the water supply for that lot comes from a public water system. Lots with both onsite sewer and water must be at least 1 acre in size. A minimum 1,200 gallon septic tank is required, though a 1,500 gallon tank is typically installed. Typically, an onsite inspection is required before the onsite septic disposal system is permitted. Often, the septic system must be engineered. The Madera County Environmental Health Department issued permits for onsite systems and performs inspections.
South 41 Corridor	SA-16 Sumner Hill: Within this service area are 49 parcels, with 26 improved and 23 vacant. The sewage system consists of a collection system, septic tanks, a pump station and a leach field. The system has worked without any problems and is adequate for subdivision build out.	Onsite disposal is allowed on lots larger than ½ acre if the water supply for that lot comes from a public water system. Lots with both onsite sewer and water must be at least 1 acre in size. A minimum 1,200 gallon septic tank is required, though a 1,500 gallon tank is typically installed. Typically, seepage pits are required. Occasionally leach lines can be used instead of seepage pits if soil conditions allow. The Madera County Environmental Health Department issues permits for onsite systems and performs inspections.

TABLE 5-3 (Continued)

WASTEWATER TREATMENT AND DISPOSAL
Madera County

Analysis Area	Public Systems	On-Site Systems
North 41 Corridor	MD-6: Lakeshore Park: Within the subdivision are 49 parcels; 42 improved and 7 vacant. The sewage plant was upgraded in 1985 to treat 32,000 gallons per day (gpd). The sewer system works very well. There is no difficulty meeting discharge requirements from the sewage plant. MD-7: Marina View: There are a total of 91 parcels with 67 improved and 24 vacant. The sewage treatment plant is operating satisfactorily but will need future upgrading. There is one sewage pump station serving 5 lower lying parcels. The sewage plant capacity is approximately 30,000 gpd. MD-22A: Oakhurst: This sewer system is comprised of 1,425 units (hook-ups) with a 250,000 gpd plant of the activated sludge type. It was recently upgraded with a 5 million dollar expansion of its spray field, storage pond, digester and sludge drying beds. The system operates with moderate problems at this time due to capacity. In the near future the treatment plant will have improvements made to increase its capacity an additional 250,000 gpd which will allow development to continue in the area. MD-24: Teaford Meadows: This area includes 67 parcels, of which 50 are improved and 17 are vacant. The sewer system has an extended aeration type plant with a capacity of 23,000 gpd. The plant operates very well and is capable of handling total build out of the subdivision. MD-27: Goldside: This subdivision contains 142 parcels with 134 improved and 8 vacant. The sewer system is a 35,000 gpd extended aeration type plant. While the plant operates well, the spray disposal of treated effluent upon the subdivision's golf course must be discontinued. The County is currently working with Goldside Homeowners Association in designing a system of spray disposal on a 46 acre site adjacent to the subdivision. SA-2: Bass Lake: This service area has 1,394 units (hook-ups). The sewer system is a 500,000 gpd activated sludge plant. The effluent is stored in a holding pond and then sprayed on land leased from the Forest Service. The collection system consists of 15 pump stations located at various locations on both sides of the lake.	Onsite disposal is allowed on lots larger than ½ acre if the water supply for that lot comes from a public water system. Lots with both onsite sewer and water must be at least 1 acre in size. A minimum 1200 gallon septic tank (for a 1 or 2 bedroom house) is required, though usually a 1500 gallon tank is placed because the cost is the same and it will handle up to four bedrooms. Typically, an onsite inspection is required before the onsite septic disposal system is permitted. Often, the septic system must be engineered. The Madera County Environmental Health Department issued permits for these onsite systems and performs the inspection of same.

TABLE 5-3 (Continued)

WASTEWATER TREATMENT AND DISPOSAL
Madera County

Analysis Area	Public Systems	On-Site Systems
North Fork/Millerton	MD-8A: North Fork: This system serves 190 parcels; 174 improved and 16 vacant. The sewer plant has recently been completely replaced. It is an extended aeration type with a capacity of 57,000 gpd. The system is a vast improvement over the old plant which was subject to periodic flooding by nearby Willow Creek.	Onsite disposal is allowed on lots larger than ½ acre if the water supply for that lot comes from a public water system. Lots with both onsite sewer and water must be at least 1 acre in size. A minimum 1200 gallon septic tank (for a 1 or 2 bedroom house) is required, though usually a 1500 gallon tank is placed because the cost is the same and it will handle up to four bedrooms. Typically, an onsite inspection is required before the onsite septic disposal system is permitted. Often, the septic system must be engineered. The Madera County Environmental Health Department issued permits for these onsite systems and performs the inspection of same.
East/National Forest		Onsite disposal is allowed on lots larger than ½ acre if the water supply for that lot comes from a public water system. Lots with both onsite sewer and water must be at least 1 acre in size. A minimum 1200 gallon septic tank (for a 1 or 2 bedroom house) is required, though usually a 1500 gallon tank is placed because the cost is the same and it will handle up to four bedrooms. Typically, an onsite inspection is required before the onsite septic disposal system is permitted. Often, the septic system must be engineered. The Madera County Environmental Health Department issued permits for these onsite systems and performs the inspection of same.
Source: Madera County Engineering and General Services, May 1994.		

METHODOLOGY

Assumptions

1. This analysis assumes that each dwelling unit will generate 250 gallons of wastewater per day (i.e., 100 gallons per day person, with an assumed household size of 2.5 persons).
2. Since nonresidential development wastewater generation varies greatly, wastewater generation will be determined on a case-by-case basis by actual occupancy and operations; accordingly, this analysis does not attempt to estimate nonresidential generation.

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if adoption or implementation of the plan would result in new development without adequate system capacity, either currently or feasibly available. The *Land Use Diagram* will also result in adverse impacts if it permits development that will result in the degradation of groundwater quality from wastewater discharges.

IMPLICATIONS OF THE LAND USE DIAGRAM

Table 5-4 shows the existing (1990) and estimated future residential wastewater generation levels at 2010 and buildout of the *Land Use Diagram*.

TABLE 5-4 ESTIMATED RESIDENTIAL WASTEWATER GENERATION 1990, 2010, and Buildout Gallons Per Day (gpd)						
Geographic Area	1990		2010		Buildout	
	Units	Wastewater Generation (gpd)	Units	Wastewater Generation (gpd)	Units	Wastewater Generation (gpd)
West Agriculture	2,288	572,000	3,396	849,000	4,636	1,159,000
Chowchilla/Fairmead	3,082	770,500	4,769	1,192,250	9,227	2,306,750
Madera	13,519	3,379,750	27,382	6,845,500	49,563	12,390,750
Raymond/Central	763	190,750	1,251	312,750	6,728	1,682,000
South 41 Corridor	2,697	674,250	9,877	2,469,250	39,769	9,942,250
North 41 Corridor	7,459	1,864,750	13,489	3,372,250	33,444	8,361,000
North Fork/Millerton	992	248,000	1,626	406,500	4,404	1,101,000
East/National Forest	0	0	400	100,000	640	160,000
Total	30,800	7,700,000	62,190	15,547,500	148,411	37,102,750
Source: Madera County Engineering and General Services, May 1994.						

The following paragraphs summarize the implications of development under the *Land Use Diagram* on the wastewater services in Madera County by geographic analysis area.

West/Agriculture

This area will continue be served mainly by individual septic systems. Since there are no "public systems" in the area, no expansion of any system is planned or necessary.

Capacity to accommodate demand is dependent upon the soil types. The County has a program for monitoring the water table other than through the periodic testing of the wells.

Chowchilla/Fairmead

Future demand will probably necessitate expansion of the Chowchilla sewage treatment plant. New development will be required to provide adequate wastewater system capacity.

A large portion of this area is served by individual septic systems. Capacity to accommodate demand is dependent upon the soil types. The County has no program for monitoring the water table other than the periodic testing of the wells.

Madera

Services to accommodate future demand will result in the expansion of the Madera City Sewer Treatment Plant. New development will be required to provide adequate wastewater system capacity.

Raymond/Central

This area will continue be served by individual septic systems. Since there are no "public systems" involved, no expansion of any system is planned or necessary.

Capacity to accommodate demand is dependent upon the soil types. The County has no program of monitoring the water table other than the periodic testing of the wells.

South 41 Corridor

This area is slated for urban uses, with the Rio Mesa project, the golf course projects, and Valley Children's Hospital. Creation of some interim sewer treatment plants is projected, however the area will eventually be served by a regional wastewater treatment facility, as yet to be designed and located.

Some parts of this area will continue be served by individual septic systems. Capacity to accommodate demand is dependent upon the soil types. The County has no program for monitoring the water table other than the periodic testing of the wells.

North 41 Corridor

Large portions of this area will continue be served by individual septic systems. Capacity to accommodate demand is dependent upon the soil types. The County has no program for monitoring the water table other than the periodic testing of the wells.

Other areas are quite urban and services to accommodate future demand will require the expansion of the treatment plants. New development will be required to provide adequate wastewater system capacity.

The Oakhurst Sewer Treatment Plant (MD-22A) is currently at capacity and has impacted growth in that area. Design for an expansion of this facility is underway, hopefully coming online in the fall of 1995. The limiting factor of how large this system can expand is the method of disposal of the effluent from the plant. This is now disposed by the use of sprayfields, and it appears that there is property available that is suitable to double the size of the current facility.

North Fork/Millerton

The majority of this area will continue be served by individual septic systems. Capacity to accommodate demand is dependent upon the soil types. The County has no program for monitoring the water table other than the periodic testing of the wells.

East/National Forest

This area will continue be served by mainly by individual septic systems. Since there are no "public systems" in the area, no expansion of any system is planned or necessary.

Capacity to accommodate demand is dependent upon the soil types. The County has no program for monitoring the water table other than the periodic testing of the wells.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes policies and implementation measures to address the effect of development on wastewater treatment and disposal systems. The following policies and programs address the implications of the *Land Use Diagram* for these systems.

General Public Facilities and Services Policies

- 3.A.1. *The County shall ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the applicant can demonstrate that all necessary public facilities will be installed or adequately financed and maintained (through fees or other means).*
- 3.A.2. *The County shall ensure that public facilities and services are developed and operational as they are needed to serve new development.*
- 3.A.3. *The County shall require new urban development to be served by community sewer and water systems where such systems are available or can feasibly be provided.*
- 3.A.4. *The County shall discourage expansion of rural communities unless necessary services can be provided.*
- 3.A.5. *The County shall require detailed public facility planning as part of the area plans for designated new growth areas.*
- 3.A.5. *The County shall encourage the placement of irrigation canals underground as urban development takes place.*

Programs

- 3.1. *The County shall establish an annual monitoring and reporting program to evaluate facility capacity and service levels.*

- 3.2. *The County shall ensure that capital improvement programs (CIPs) or area facilities plans are prepared in conjunction with new area plans and specific plans and are reviewed annually and updated as needed. These CIPs should identify improvement needs for the succeeding five-year period.*

Public Facilities and Services Funding Policies

- 3.B.1. *The County shall require that new development pay its fair share of the cost of developing new facilities and services and upgrading existing public facilities and services subject to the requirements of California Government Code Section 66000 et seq. (AB 1600); exceptions may be made when new development generates significant public benefits (e.g., low income housing) and when alternative sources of funding can be identified to offset foregone revenues.*
- 3.B.2. *The County shall seek broad-based funding sources for public facilities and services that benefit current and future residents of the county.*

Programs

- 3.4. *The County shall develop and adopt ordinances specifying acceptable methods for new development to pay for new capital facilities and expanded services. Possible mechanisms include development fees, assessment districts, land/facility dedications, county service areas, and community facilities districts.*
- 3.5. *The County shall adopt and periodically update fee schedules for new development to fund needed public facilities and services.*

Wastewater Collection, Treatment, and Disposal

Policies

- 3.D.1. *The County shall limit the expansion of urban communities to areas where community wastewater treatment systems can be provided. In areas with no public wastewater treatment systems, the County shall limit development to densities that can safely be developed with on-site systems.*
- 3.D.2. *The County shall promote efficient water use and reduced wastewater system demand by:*
- a. Requiring water-conserving design and equipment in new construction;*
 - b. Encouraging retrofitting with water-conserving devices; and*
 - c. Designing wastewater systems to minimize inflow and infiltration, to the extent economically feasible.*
- 3.D.3. *The County shall permit on-site sewage treatment and disposal on parcels where all current regulations can be met; where parcels have the area, soils, and other characteristics that permit such disposal facilities without threatening surface or groundwater quality or posing any other health hazards; and where community sewer service is not available and cannot be provided.*
- 3.D.4. *The County shall require that the development, operation, and maintenance of on-site disposal systems complies with the requirements and standards of the County Department of Environmental Health.*

IMPACTS

Generally, the *General Plan* policies and programs provide for adequate wastewater treatment systems in connection with new development. Since most of the wastewater systems in the foothills and mountains are septic systems, however, the cumulative impacts on groundwater quality are unknown and are therefore considered potentially significant. This is a particular concern since the groundwater is used as potable water source.

MITIGATION MEASURES

Development of one or more wastewater treatment plants to serve areas where cumulative impacts of septic systems on groundwater quality is a concern would mitigate this impact to a less-than-significant level. Since the feasibility of this is unknown, the impact is still considered potentially significant.

5.3 DRAINAGE AND FLOOD CONTROL

ENVIRONMENTAL SETTING

Chapter 4 of the *Background Report* describes drainage and flood control systems in Madera County. These are summarized by geographic analysis area below.

West/Agriculture

This area receives runoff from a large part of the county. The Fresno River Basin, supplemented by the watersheds of Ash Slough, Berenda Slough, Berenda Creek, Dry Creek, and Cottonwood Creek, deliver surface waters to this area.

The Fresno River, Cottonwood Creek, Berenda Creek, Dry Creek, Ash Slough and Berenda Slough are vehicles for transporting the water through this area. The Madera County Flood Control District does some maintenance in the all of these to help maintain the capacity of these channels.

The Fresno River Diversion structure lies within this geographic analysis area and is maintained by the County.

Over half of this area is subject to some flooding, according to the Flood Insurance Rate Maps (FIRM) developed by the Federal Emergency Management Agency (FEMA) that map 100- and 500-year flood plains. This potential exists throughout most of this geographic analysis area. Since nearly all of this land is agricultural, this flooding does not usually cause property damage. Crop loss is possible if the water comes at an inopportune time, but most farmers have knowledge of their land and plan accordingly. Problems have occurred for houses built prior to Madera County's enrollment into the National Flood Insurance Program in August 1987. New structures have been constructed in accordance with Madera County's flood control ordinances.

Chowchilla/Fairmead

Drainage basins for this area include the Ash and Berenda Sloughs and Berenda Creek.

The Berenda Creek, Ash Slough and Berenda Slough are vehicles for transporting the water through this area. The Madera County Flood Control District does some maintenance to help maintain the capacity of these channels.

The Ash Slough/Berenda Slough Diversion structure lies within this geographic analysis area and is maintained by the County.

Some portions of this area, particularly around the water courses and in the Fairmead area, are subject to some flooding, according to the Flood Insurance Rate Maps (FIRM) developed by the Federal Emergency Management Agency (FEMA).

Madera

Drainage basins for this area include the Fresno River, Dry Creek, and Cottonwood Creek.

The Fresno River, Dry Creek, and Cottonwood Creek are vehicles for transporting the water through this area. The Madera County Flood Control District does some maintenance in the all of these to help perpetuate the capacity of these channels.

There are no flood control facilities in this area.

Some portions of this area, particularly around the water courses, are subject to some flooding, according to the Flood Insurance Rate Maps (FIRM) developed by the Federal Emergency Management Agency (FEMA).

Raymond/Central

Drainage basins for this area include those of the Fresno River, Chowchilla River, and Daulton Creek.

Fresno River, Chowchilla River, and Daulton Creek are vehicles for transporting the water through this area. The Madera County Flood Control District does some maintenance in the Fresno River to help perpetuate the capacity of this channel.

Eastman Lake (on the Chowchilla River), the Madera Equalization Reservoir, and Hensley Lake (on the Fresno River) act in some capacity to take surplus flows.

Some portions of this area, particularly around the water courses, are subject to some flooding, according to the Flood Insurance Rate Maps (FIRM) developed by the Federal Emergency Management Agency (FEMA).

South 41 Corridor

The San Joaquin River, Cottonwood Creek, and Root Creek collect surface waters in this area.

The San Joaquin River, Cottonwood Creek, and Root Creek are vehicles for transporting the water through this area. The Madera County Flood Control District does some maintenance to Cottonwood Creek to help maintain the capacity of this channel.

There are no flood control facilities in the South 41 Corridor area.

Some portions of this area, particularly around the water courses, are subject to some flooding, according to the Flood Insurance Rate Maps (FIRM) developed by the Federal Emergency Management Agency (FEMA). There are defined floodplains and floodways through the Madera Ranchos and Bonadelle Ranchos subdivisions. Encroachment into these floodways by fences and storage buildings not requiring permits can temporarily exacerbate flooding problems.

North 41 Corridor

The Fresno River and Coarsegold Creek collect surface waters in this area. There are, however, no formal drainage or flood control facilities in the area.

Small portions of this area, particularly around watercourses, are subject to some flooding, according to the Flood Insurance Rate Maps (FIRM). Flooding is not usually a problem in the mountain regions, though erosion control can become a concern.

North Fork/Millerton

The San Joaquin River and Finegold Creek collect surface waters in this area. There are, however, no formal drainage facilities in the North Fork/Millerton area.

Millerton Lake, on the San Joaquin River, provides storage for irrigation and assists in collecting surplus flows that could cause flooding.

Some small portions of this area, particularly around watercourses, are subject to flooding, according to the Flood Insurance Rate Maps (FIRM). Flooding is not usually a problem in the mountain regions, though erosion control can become a concern.

East/National Forest

This area is mainly under the jurisdiction of the Forest Service, with very little land under the control of the County. Accordingly, there are no County-operated drainage or flood control facilities in the area. Furthermore, no major drainage problems have been reported in this part of the county.

METHODOLOGY

Assumptions

Madera County has never adopted formal runoff coefficients or Impervious Surface Factors (ISF). The factors used in the *Gunner Ranch West EIR*, however, are acceptable to the County Engineering Department, until such time as the Department adopts its own standards.

It is assumed that 90 percent of the rain that falls on impervious surfaces ends up as runoff, and 40 percent runs off of landscaped areas. The site's composite runoff can be calculated as follows: $(0.9 * ISF) + (0.4 * (1 - ISF))$.

TABLE 5-5
IMPERVIOUS SURFACE FACTORS AND COMPOSITE RUNOFF COEFFICIENTS
By Development Type

Category	ISF	Combined Runoff Coefficient
Residential	65%	72.5%
Commercial/Office/Hospital	90%	85.0%
School	50%	65.0%
Freeway	100%	90.0%
Open Space	0%	40.0%

Source: Madera County Engineering and General Services, May 1994.

These are general guidelines; the County will review projects individually.

IMPLICATIONS OF THE LAND USE DIAGRAM

All Geographic Areas

The *Land Use Diagram* designates new development that will require new drainage systems. New development will result in creation of impervious surfaces through paving, roadways, and structures. The implications are greatest in the low-lying valley areas and near rivers and channels.

The demand for drainage and flood control occurs as each new project is developed. Most areas do not have an area drainage plan. Each project is required to address additional runoff created by the new development. Some areas, particularly the Rio Mesa area, will probably develop a community drainage plan to eliminate the need for many small retention basins.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes policies and implementation measures to address the effect of development on drainage and flood control systems. The following policies and programs address the implications of the *Land Use Diagram* for these systems.

General Public Facilities and Services Policies

- 3.A.1. *The County shall ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the applicant can demonstrate that all necessary public facilities will be installed or adequately financed and maintained (through fees or other means).*

- 3.A.2. *The County shall ensure that public facilities and services are developed and operational as they are needed to serve new development.*
- 3.A.3. *The County shall require new urban development to be served by community sewer and water systems where such systems are available or can feasibly be provided.*
- 3.A.4. *The County shall discourage expansion of rural communities unless necessary services can be provided.*
- 3.A.5. *The County shall require detailed public facility planning as part of the area plans for designated new growth areas.*
- 3.A.6. *The County shall encourage the placement of irrigation canals underground as urban development takes place.*

Programs

- 3.1. *The County shall establish an annual monitoring and reporting program to evaluate facility capacity and service levels.*
- 3.2. *The County shall ensure that capital improvement programs (CIPs) or area facilities plans are prepared in conjunction with new area plans and specific plans and are reviewed annually and updated as needed. These CIPs should identify improvement needs for the succeeding five-year period.*

Public Facilities and Services Funding Policies

- 3.B.1. *The County shall require that new development pay its fair share of the cost of developing new facilities and services and upgrading existing public facilities and services subject to the requirements of California Government Code Section 66000 et seq. (AB 1600); exceptions may be made when new development generates significant public benefits (e.g., low income housing) and when alternative sources of funding can be identified to offset foregone revenues.*
- 3.B.2. *The County shall seek broad-based funding sources for public facilities and services that benefit current and future residents of the county.*

Programs

- 3.4. *The County shall develop and adopt ordinances specifying acceptable methods for new development to pay for new capital facilities and expanded services. Possible mechanisms include development fees, assessment districts, land/facility dedications, county service areas, and community facilities districts.*
- 3.5. *The County shall adopt and periodically update fee schedules for new development to fund needed public facilities and services.*

Storm Drainage and Flood Control Policies

- 3.E.1. *The County shall provide for expansion and development of storm drainage systems to meet the needs of existing and planned development.*
- 3.E.2. *The County shall require new development to provide protection from the 100-year flood as a minimum.*
- 3.E.3. *The County shall continue to implement floodplain zoning and undertake other actions required to comply with state floodplain requirements, and to maintain the County's eligibility under the Federal Flood Insurance Program.*
- 3.E.4. *The County shall require new development to pay its fair share of the costs of Madera County storm drainage and flood control improvements.*
- 3.E.5. *The County shall encourage project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions.*
- 3.E.6. *Future drainage system discharges shall comply with applicable state and federal pollutant discharge requirements.*
- 3.E.7. *The County shall encourage the use of natural stormwater drainage systems to preserve and enhance natural features.*
- 3.E.8. *The County shall consider recreational opportunities and aesthetics in the design of stormwater ponds and conveyance facilities.*

Program

- 3.6. *The County shall prepare and adopt ordinances and programs as necessary and appropriate to implement required actions under state and federal stormwater quality programs.*

IMPACTS

With full implementation of *General Plan* policies and programs, the impact of development under the *General Plan* will be less-than-significant.

MITIGATION MEASURES

No mitigation measures other than the *General Plan* policies and programs are required.

5.4 SOLID WASTE MANAGEMENT**ENVIRONMENTAL SETTING**

Chapter 4 of the *Background Report* describes solid waste facilities and issues.

Waste Collection

Solid waste within Madera County is currently collected by several haulers. Madera Disposal Systems collects solid waste in the unincorporated area of western Madera County, which is referred to as the "Valley Collection Zone." The cities of Madera and Chowchilla are also located within the Valley Collection Zone. Within the city of Madera solid waste is collected by a private waste hauling company (BFI), which is headquartered in Fresno County and also operates its own private sanitary landfill in that county. BFI hauls an average of 10 tons per day of the 43 tons per day of the solid waste collected in the city of Madera to their own landfill in Fresno County. The City of Chowchilla uses its own equipment to collect the solid waste generated within its boundaries hauls the material to the Fairmead Landfill.

The eastern part of unincorporated Madera County is known as the "Mountain Collection Zone." Collection within this zone is carried out by privately-owned and operated Emadco Disposal Service. Emadco collects solid waste generated in the mountain and foothill areas and transports it to its own transfer station near Oakhurst. It then transports the waste to the Fairmead Landfill.

Madera Disposal Systems, Inc., operates the North Fork Transfer Station and transport solid waste from the North Fork Transfer Station to the Fairmead Landfill site. The North Fork Transfer Station is open to the public.

Private individuals also haul solid waste from all over Madera County directly to the Fairmead Landfill or to the North Fork Transfer Station. These private hauls account for a significant portion of the total amount of solid waste collected throughout the year.

Disposal Sites

There is one disposal site in Madera County (the Fairmead Landfill, which is in the Chowchilla/Fairmead area) and two transfer stations: the Emadco Transfer Station near Oakhurst in the North 41 Corridor area; and the North Fork Transfer Station (public), operated by Madera Disposal Systems, Inc, in the North Fork/Millerton area.

Waste Diversion

The only waste diversion facility in Madera County is the Materials Recovery Facility (MRF) at the Fairmead Landfill in the Chowchilla/Fairmead area.

METHODOLOGY

Assumptions

1. The Fairmead Landfill has the estimated capacity to accommodate all the solid waste generated in Madera County through the year 2020. This includes population growth projections, but does not include waste stream diversion.
2. This analysis assumes an average solid waste generation rate of 4.75 pounds of waste per day per capita. The per-capita rate is a composite figure that includes commercial and industrial waste. This generation rate assumes that some of the waste that historically would have been deposited in the landfill will be "diverted" and therefore will not consume landfill capacity. This diversion takes several forms. First, cement and rock are diverted from the landfill and recycled as base for landfill "all weather" roads.

Second, clean wood wastes and construction demolition materials are shredded for fuel for the cogeneration plants in Madera County. Finally, the ash produced at the cogeneration facilities is recycled for approved uses.

3. This analysis assumes that the current waste diversion rate as documented in the *Final Source Reduction and Recycling Element* (estimated to be 51 percent) will continue.
4. A material recovery facility is scheduled to be operational in late 1994.

Thresholds

For the purposes of this EIR, the *General Plan* is considered to have a significant impact if solid waste facilities and services cannot serve, or be expanded to serve, waste generated by projected development under the plan.

IMPLICATIONS OF THE LAND USE DIAGRAM

Table 5-6 shows how much waste would be generated by the population levels estimated for year 2010 and buildout of the *Land Use Diagram*, as well as for existing development (1990).

TABLE 5-6
ESTIMATED SOLID WASTE GENERATION
1990, 2010, and Buildout
In Tons Per Day (tpd)

Geographic Area	1990		2010		Buildout	
	Population	Waste Generated (tpd)	Population	Waste Generated (tpd)	Population	Waste Generated (tpd)
West Agriculture	7,903	18.77	11,743	27.89	16,031	38.07
Chowchilla/Fairmead	8,451	20.07	13,062	31.02	26,182	62.18
Madera	42,685	101.38	83,241	197.70	150,672	357.85
Raymond/Central	2,204	5.23	3,613	8.58	19,430	46.15
South 41 Corridor	8,642	20.52	28,149	66.85	113,342	269.19
North 41 Corridor	15,910	37.79	33,318	79.13	82,607	196.19
North Fork/Millerton	2,304	5.47	4,248	10.09	11,505	27.32
East/National Forest	0	0.00	1,600	3.80	2,440	5.80
Total	88,099	209.24	178,974	425.06	422,209	1,002.75

Source: Madera County Engineering and General Services

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes policies and implementation measures to address the effect of development on solid waste collection and disposal services. The following policies and programs address the implications of the *Land Use Diagram* on these services.

General Public Facilities and Services Policies

- 3.A.1. *The County shall ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the applicant can demonstrate that all necessary public facilities will be installed or adequately financed and maintained (through fees or other means).*
- 3.A.2. *The County shall ensure that public facilities and services are developed and operational as they are needed to serve new development.*
- 3.A.3. *The County shall require new urban development to be served by community sewer and water systems where such systems are available or can feasibly be provided.*
- 3.A.4. *The County shall discourage expansion of rural communities unless necessary services can be provided.*
- 3.A.5. *The County shall require detailed public facility planning as part of the area plans for designated new growth areas.*
- 3.A.6. *The County shall encourage the placement of irrigation canals underground as urban development takes place.*

Programs

- 3.1. *The County shall establish an annual monitoring and reporting program to evaluate facility capacity and service levels.*
- 3.2. *The County shall ensure that capital improvement programs (CIPs) or area facilities plans are prepared in conjunction with new area plans and specific plans and are reviewed annually and updated as needed. These CIPs should identify improvement needs for the succeeding five-year period.*

Public Facilities and Services Funding Policies

- 3.B.1. *The County shall require that new development pay its fair share of the cost of developing new facilities and services and upgrading existing public facilities and services subject to the requirements of California Government Code Section 66000 et seq. (AB 1600); exceptions may be made when new development generates significant public benefits (e.g., low income housing) and when alternative sources of funding can be identified to offset foregone revenues.*
- 3.B.2. *The County shall seek broad-based funding sources for public facilities and services that benefit current and future residents of the county.*

Programs

- 3.4. *The County shall develop and adopt ordinances specifying acceptable methods for new development to pay for new capital facilities and expanded services. Possible mechanisms include development fees, assessment districts, land/facility dedications, county service areas, and community facilities districts.*
- 3.5. *The County shall adopt and periodically update fee schedules for new development to fund needed public facilities and services.*

Landfills, Transfer Stations, and Solid Waste Recycling Policies

- 3.F.1. *The County shall require waste collection in all new urban and suburban development.*
- 3.F.2. *The County shall promote maximum use of solid waste source reduction, recycling, composting, and environmentally-safe transformation of wastes.*
- 3.F.3. *The County shall ensure that solid waste disposal facilities do not violate state standards for contamination of surface or groundwater.*
- 3.F.4. *The County shall promote the siting of new solid waste collection and transfer facilities in locations as close as practical to the areas they serve.*
- 3.F.5. *The County shall ensure that landfills and transfer stations are buffered from incompatible development.*
- 3.F.6. *The County shall require that all new development complies with applicable provisions of the Madera County Integrated Waste Management Plan.*
- 3.F.7. *The County shall encourage the development of regional and community-based recycling facilities in heavy commercial and industrial areas.*
- 3.F.8. *The County shall encourage businesses to use recycled products in their manufacturing processes and consumers to buy recycled products.*

Programs

- 3.7. *The County shall develop and adopt an ordinance requiring solid waste collection in all new urban and suburban development.*
- 3.8. *The County shall monitor landfills during operation and after closure to detect groundwater contamination and gas mitigation.*
- 3.9. *The County shall prepare, adopt, and regularly review and revise as necessary an Integrated Waste Management Plan.*

IMPACTS

With full implementation of the policies and programs of the *General Plan*, the impact of development under the *General Plan* will be less-than-significant.

MITIGATION MEASURES

No additional mitigation is required other than the policies and programs of the *General Plan*.

5.5 LAW ENFORCEMENT

ENVIRONMENTAL SETTING

Chapter 4 of the *Background Report* describes existing law enforcement services in Madera County. Law enforcement in the unincorporated area of the county is provided by the County Sheriff's Department. The Sheriff's Department had a total of 56 sworn officers in 1993, 52 of whom were paid from the General Fund, while the remaining 4 were paid from grants and contract accounts. In addition, there were 19 non-sworn clerical or support personnel, giving the Department a total staff of 75 in 1992.

The county is divided into eight beat areas, with one officer on duty per beat at any one time. The shifts are divided into three eight-hour shifts. Deputies patrol their assigned beat, responding to calls as they come in.

The most pressing problem confronting the Sheriff's Department is understaffing. In 1980, the Department had 52 sworn deputies covering a population of approximately 40,000 (in the unincorporated areas) for a ratio of 1.3 deputies per 1,000 population. In 1993 the Department had 56 officers covering a population of approximately 70,000, for a staffing ratio of 0.7 deputies per 1,000 population. According to the County Sheriff, this is an extremely low coverage rate and prevents the Department from providing an adequate level of public safety.

Law enforcement in the cities of Chowchilla and Madera is provided by each city's police department.

METHODOLOGY

Assumptions

1. Law enforcement services in the unincorporated area of the county will continue to be provided by the Madera County Sheriff's Department, while the Cities of Chowchilla and Madera will provide services within their corporate boundaries.
2. For purposes of this analysis, the County's objective is to maintain a service ratio of 1.0 officers per 1,000 new residents.

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if adoption or implementation of the *General Plan* would generate demand for law enforcement services that would exceed the ability of the local law enforcement agencies to comply with the service ratio and response time policies included in the *General Plan*.

IMPLICATIONS OF THE LAND USE DIAGRAM

Table 5-7 shows the increased demand for Sheriff's Department officers resulting for estimated population growth through 2010 for each of the geographic analysis areas. The table focuses only on development anticipated for the unincorporated area of the county.

TABLE 5-7 INCREASE IN DEMAND FOR SHERIFF'S OFFICERS 1990 to 2010				
Geographic Area	1990 Population	2010 Population	1990-2010 Increase	
			Population	Officers*
West Agriculture	7,903	11,743	3,840	4
Chowchilla/Fairmead	2,408	3,561	1,153	1
Madera	6,097	19,918	13,821	14
Raymond/Central	2,204	3,613	1,409	1
South 41 Corridor	8,642	28,149	19,507	20
North 41 Corridor	15,910	33,318	17,408	17
North Fork/Millerton	2,304	4,248	1,944	2
East/National Forest	0	1,600	1,600	2
Total	45,468	106,150	60,682	61
*Assumes ratio of 1 officer for every 1,000 new residents				
Source: J. Laurence Mintier & Associates				

West/Agriculture

Because this area will experience very little population growth through the year 2010, the increased demand for law enforcement will be limited to an estimated 4 additional officers.

Chowchilla/Fairmead

Development estimated for the unincorporated part of this area will generate the need for only one additional officer by the year 2010.

Madera

Since this area will experience a substantial amount of population growth through 2010, mostly related to development of the State Center Community College project and buildout of Madera and Bonadelle Ranchos, there will be a need for an estimated 14 additional Sheriff's officers to provide law enforcement services.

Raymond/Central

Population in this area is expected to increase by about 1,400 residents by 2010. This increase would call for the addition of between one and two law enforcement officers.

South 41 Corridor

Primarily because of development in two new growth areas, Rio Mesa and Gunner Ranch West, the South 41 Corridor is expected to grow by almost 20,000 residents by 2010. This would result in the need for approximately 20 additional law enforcement officers. The draft environmental impact reports for these two projects propose to provide funding for law enforcement through establishment of a community services district (CSD).

North 41 Corridor

The population of the North 41 Corridor is also expected to grow significantly through 2010, with an estimated increase of nearly 17,500 residents, mostly in subdivisions that have been planned as part of the County's area planning process.. These new residents would generate a demand for over 17 new law enforcement officers.

North Fork/Millerton

This area would experience a relatively small amount of population growth through 2010, with about 2,000 new residents. This growth would call for the addition of two law enforcement officers.

East/National Forest

The development estimated for this part of the county through 2010 is expected to be exclusively in seasonally-occupied vacation homes, with no permanent residents. Furthermore, very little of this area is under the jurisdiction of the Madera County Sheriff's Department.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes policies and implementation measures to address the effect of development on provision of law enforcement services. The following policies and programs address the implications of the *Land Use Diagram* on law enforcement.

General Public Facilities and Services Policies

- 3.A.1. *The County shall ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the applicant can demonstrate that all necessary public facilities will be installed or adequately financed and maintained (through fees or other means).*
- 3.A.2. *The County shall ensure that public facilities and services are developed and operational as they are needed to serve new development.*

- 3.A.4. *The County shall discourage expansion of rural communities unless necessary services can be provided.*
- 3.A.5. *The County shall require detailed public facility planning as part of the area plans for designated new growth areas.*

Programs

- 3.1. *The County shall establish an annual monitoring and reporting program to evaluate facility capacity and service levels.*
- 3.2. *The County shall ensure that capital improvement programs (CIPs) or area facilities plans are prepared in conjunction with new area plans and specific plans and are reviewed annually and updated as needed. These CIPs should identify improvement needs for the succeeding five-year period.*

Public Facilities and Services Funding Policies

- 3.B.1. *The County shall require that new development pay its fair share of the cost of developing new facilities and services and upgrading existing public facilities and services subject to the requirements of California Government Code Section 66000 et seq. (AB 1600); exceptions may be made when new development generates significant public benefits (e.g., low income housing) and when alternative sources of funding can be identified to offset foregone revenues.*
- 3.B.2. *The County shall seek broad-based funding sources for public facilities and services that benefit current and future residents of the county.*

Programs

- 3.4. *The County shall develop and adopt ordinances specifying acceptable methods for new development to pay for new capital facilities and expanded services. Possible mechanisms include development fees, assessment districts, land/facility dedications, county service areas, and community facilities districts.*
- 3.5. *The County shall adopt and periodically update fee schedules for new development to fund needed public facilities and services.*

Law Enforcement Services Policies

- 3.G.1. *The County shall ensure the provision of effective law enforcement, fire, and emergency medical services to unincorporated areas.*
- 3.G.2. *The County shall reserve adequate sites for sheriff, fire, and emergency medical facilities in unincorporated locations in Madera County.*
- 3.G.3. *The County shall require new development to pay its fair share of the costs for providing law enforcement, fire, and emergency medical facilities, subject to the requirements of California Government Code Section 66000 et seq. (AB 1600).*

3.G.5. The County shall limit development to very low densities in areas where emergency response times will average more than 20 minutes.

These policies and programs would generally ensure that new development provide for and fund the public facilities and services necessary to address the demand generated by that development. Specifically, they call for the provision of adequate law enforcement services in conjunction with new development.

IMPACTS

With the successful implementation of these policies and programs, the impact of new development on the ability to provide adequate law enforcement services will be less than significant

MITIGATION MEASURES

Because new development is not expected to result in significant impacts, no mitigation measures are necessary.

5.6 FIRE PROTECTION

ENVIRONMENTAL SETTING

Chapter 4 of the *Background Report* describes existing fire protection services in Madera County. The California Department of Forestry and Fire Protection (CDF) has provided contract fire protection services to most of Madera County since 1928. The City of Madera also contracts with CDF to provide fire protection services, while the City of Chowchilla has its own fire protection staff.

The current contract between the County and CDF funds 17 fire fighting personnel (CDF employees). These employees fall into the following categories: one dispatcher, one training captain, three battalion chiefs, and twelve station personnel. In addition, approximately 220 Paid-Call "volunteer" fire fighters assist on fire protection calls when required.

The County operates and equips 16 fire stations (see Figure 4.2 of the *Background Report*). Four of these stations are staffed with permanent CDF employees, while 12 are unstaffed, stand-alone stations. The four staffed stations are as follows: Madera Station (#1); Madera Country Club Station (#3); Oakhurst Station (#12); and Bonadelle Ranchos Station (#19). CDF has an additional five wildland fire stations in Madera County, only one of which is staffed on a year-round basis. Only one lookout station, at Deadwood Peak, is currently staffed. Because there are no budgeted positions for this purpose, the Deadwood Peak lookout is staffed on a voluntary basis only.

The Insurance Services Office (ISO) is an agency that evaluates fire protection features for all fire departments for purposes of establishing rates for insurance underwriters. ISO uses a rating system that is based on scale of one to ten, with one being the best fire protection rating and ten being the worst. In order to determine an area's rating, the ISO uses a formula where the primary factors are the availability of water and fire protection service in the area.

ISO ratings in Madera County vary from a 6 in areas with a rated hydrant system to a 9 in some of the more remote areas. Most of the mountain area is rated 8, due to CDF's ability to deliver water via water tenders. Specific fire hazard information and insurance classifications are described and mapped in Chapter 7, *Safety*, of the *Background Report*.

New development in Madera County places an additional burden on the CDF to provide adequate fire protection service. In order to help provide this service, the County collects developer impact fees for fire protection. These fees, however, do not provide enough funds to build new fire stations and provide immediate service to new growth areas. As a result, some new developments are being required to provide the money, and or facilities, necessary to bring fire protection service to their developments. In return, these developments may be reimbursed by future developments that come into the area and utilize these facilities.

METHODOLOGY

Assumptions

1. Fire protection services in the unincorporated area of the county and in the city of Madera will continue to be provided by the CDF, while the City of Chowchilla will continue to provide services within its corporate boundaries.

Thresholds of Significance

For the purposes of this EIR, a significant impact would occur if adoption or implementation of the *General Plan* would generate demand for fire protection services that would exceed the ability of the local fire protection agencies to comply with fire protection and response time policies included in the *General Plan*.

IMPLICATIONS OF THE LAND USE DIAGRAM

West/Agriculture

This area, which will be served by County fire stations 1 and 4, will experience very little urban and suburban growth as a result the *General Plan*, with most of the area continuing to be used for agricultural purposes.

Chowchilla/Fairmead

The unincorporated area of the Chowchilla/Fairmead area is served by County fire stations 2 and 4, while the area within Chowchilla is served by the City's fire department. The population of the unincorporated area is expected to grow moderately through 2010, with approximately 1,000 additional residents.

Madera

This unincorporated part of the Madera area is expected to grow by approximately 14,000 residents and 3,000 employees by 2010, with this growth split about evenly between the proposed State Center Community College project and the balance of the unincorporated area. The Madera Station (#1) and the Madera Country Club Station (#3) currently provide service to this area; it is expected either that the Madera Station will have to expanded or a new facility built to handle fire protection for this additional development.

Raymond/Central

This area, all of which is unincorporated, will experience very little population or employment growth through 2010. Most of the projected development is assumed to occur in the Lake Madera Country Estates and the Valley Lake Ranchos subdivisions, with limited development in the community of Raymond. All of this development is expected to be adequately served by the County's existing fire station #15.

South 41 Corridor

This area is assumed to accommodate substantial growth, since it includes two designated new growth areas, Gunner Ranch West and Rio Mesa. Nearly all the growth in the South 41 Corridor area outside the Rio Mesa and Gunner Ranch West areas is assumed to occur on existing subdivided land. As with law enforcement services, the EIRs for the Gunner Ranch and Rio Mesa projects assume that community service districts will be formed to provide necessary fire protection resources.

North 41 Corridor

Residential development in this area is expected to continue as a result of commuters to Fresno and Madera who are attracted to the area's rural, mountain setting. Employment growth in this area is assumed to be driven by three factors: 1) local retail and services to serve the population in this area as the population base grows; 2) tourist-related businesses and services; and 3) limited employment growth of companies locating to the area because of its relatively affordable housing and quality of life.

Fire protection services in the North 41 Corridor is expected to be provided by the five existing County stations in the area, only one of which is currently staffed on a full-time basis (Oakhurst). As development adds more demand for services in the North 41 Corridor, it is probable that some currently-unmanned stations will have to be converted to full-time staffing.

North Fork/Millerton

Population and employment growth in the North Fork/Millerton area is expected to be limited, with the principal change resulting from an increase in Fresno-bound commuters residing in the area. The County fire stations in North Fork and O'Neals are expected to continue to be provide service to this area.

East/National Forest

Very little growth is expected in this area, since most of the land is under federal jurisdiction. The growth that is expected is assumed to be limited to the development of second homes/vacation homes on private inholdings in the national forest land. Recreational use and forestry is expected to continue in this area. The federal government is expected to continue to be the primary provider of fire protection services in the area.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes policies and implementation measures to address the effect of development on fire protection facilities and services. The following policies and programs address the implications of the *Land Use Diagram* for fire protection.

General Public Facilities and Services Policies

- 3.A.1. *The County shall ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the applicant can demonstrate that all necessary public facilities will be installed or adequately financed and maintained (through fees or other means).*

- 3.A.2. *The County shall ensure that public facilities and services are developed and operational as they are needed to serve new development.*
- 3.A.4. *The County shall discourage expansion of rural communities unless necessary services can be provided.*
- 3.A.5. *The County shall require detailed public facility planning as part of the area plans for designated new growth areas.*

Programs

- 3.1. *The County shall establish an annual monitoring and reporting program to evaluate facility capacity and service levels.*
- 3.2. *The County shall ensure that capital improvement programs (CIPs) or area facilities plans are prepared in conjunction with new area plans and specific plans and are reviewed annually and updated as needed. These CIPs should identify improvement needs for the succeeding five-year period.*

Public Facilities and Services Funding Policies

- 3.B.1. *The County shall require that new development pay its fair share of the cost of developing new facilities and services and upgrading existing public facilities and services subject to the requirements of California Government Code Section 66000 et seq. (AB 1600); exceptions may be made when new development generates significant public benefits (e.g., low income housing) and when alternative sources of funding can be identified to offset foregone revenues.*
- 3.B.2. *The County shall seek broad-based funding sources for public facilities and services that benefit current and future residents of the county.*

Programs

- 3.4. *The County shall develop and adopt ordinances specifying acceptable methods for new development to pay for new capital facilities and expanded services. Possible mechanisms include development fees, assessment districts, land/facility dedications, county service areas, and community facilities districts.*
- 3.5. *The County shall adopt and periodically update fee schedules for new development to fund needed public facilities and services.*

Fire Protection Services Policies

- 3.H.1. *The County shall encourage local fire protection agencies in Madera County to maintain the following as minimum fire protection standards (expressed as Insurance Service Organization (ISO) ratings):*
 - a. *ISO 4 in urban areas*
 - b. *ISO 6 in suburban areas*
 - c. *ISO 8 in rural areas*

- 3.H.2. *The County shall encourage local fire protection agencies in the county to maintain the following as minimum standards (expressed as average first alarm response times to emergency calls):*
- a. *10 minutes in urban areas*
 - b. *15 minutes in suburban areas*
 - c. *20 minutes in rural areas*
- 3.H.3. *The County shall require that new fire stations be located to achieve a service level capability consistent with existing and planned land uses.*
- 3.H.4. *The County shall require new development to develop or fund fire protection facilities that, at a minimum, maintain the above service level standards.*
- 3.H.5. *The County shall ensure that all proposed developments are reviewed for compliance with fire safety standards by responsible local fire agencies per the Uniform Fire Code and other state and local ordinances.*
- 3.H.6. *The County shall work with local fire protection agencies to eliminate structurally unsafe and fire-hazardous housing structures that are beyond repair or rehabilitation.*
- 3.H.7. *The County shall encourage local fire protection agencies to provide and maintain advanced levels of emergency medical services (EMS) to the public.*

These policies and programs would generally ensure that new development provide for and fund the public facilities and services necessary to address the demand generated by that development. Specifically, they call for the provision of adequate fire protection services in conjunction with new development.

IMPACTS

With the successful implementation of these policies and programs, the impact of new development on the ability to provide adequate fire protection services will be less than significant

MITIGATION MEASURES

No mitigation measures other than the policies and programs of the *General Plan* are necessary.

5.7 UTILITIES

This section assesses the potential impacts of development estimated for 2010 under the *General Plan* on non-municipal utilities, including electricity, natural gas, telephone, and cable television.

ENVIRONMENTAL SETTING

Chapter 4 of the *Background Report* describes existing utility services in Madera County.

Electricity and Natural Gas

Pacific Gas and Electric (PG&E) provides electrical service to all developed areas of Madera County, and natural gas to all areas in the valley except the southeastern part of the county, where natural gas service is not available.

Most electrical service in Madera County is provided by above ground lines. All new subdivisions and other developments of lots of three acres or less, however, are required to have service provided by underground lines. Transmission lines enter the county from the north, south, and east, with the major substations being outside the county.

Telephone Service

Madera County is served by three telephone companies; Pacific Bell, Sierra Telephone, and Ponderosa Telephone.

Pacific Bell provides service to the western part of the county, from Hensley Lake west to the Fresno/Madera county line. Service is currently provided through a combination of above-ground cables and below-ground conduits. However, undergrounding of all lines is occurring in all new developments in accordance with State law.

Of the three systems in the county, Sierra Telephone has the largest service area. Its service area encompasses Ahwahnee, Bass Lake, Coarsegold, Oakhurst, Raymond, Sugar Pine, and Yosemite Lakes Park. Approximately 95 percent of the service is provided through underground lines.

Ponderosa Telephone has the smallest service area. Ponderosa Telephone serves the O'Neals and North Fork region along with the entrance area to Yosemite Lakes Park. Most service is provided via underground lines.

Cable Television

Madera County is served by two cable television companies. Continental Cablevision covers western Madera County, including the city of Madera. Northland Cable covers the city of Chowchilla, Ahwahnee, Bass Lake, Coarsegold, and Oakhurst. No cable service is available to Raymond or any extreme outlying areas. Both companies mainly provide service by above-ground lines.

METHODOLOGY

For the non-municipal public utilities described above, this analysis compares the level of development anticipated by 2010 with the service capacity and expansion information provided by the service providers.

Assumptions

1. Current service providers will continue to be responsible for serving future development within their current service areas.

Thresholds of Significance

For the purposes of this EIR, a significant impact is assumed if adoption or implementation of the *General Plan* would generate demand that exceeds the current or feasibly-expanded capacity of existing utility service providers.

IMPLICATIONS OF THE LAND USE DIAGRAM

Electricity and Natural Gas

The major concern confronting PG&E is the lack of natural gas service in the southeastern part of the County. With that exception, PG&E is able to provide service at an adequate level and expects to maintain that level of service even with growth continuing at the same rate.

Telephone Service

All three telephone companies are currently meeting service demands and all expect to continue providing the same level of service with no foreseeable problems.

Cable Television

Continental Cablevision expects to continue to meet current and future service demands. Northland Cable is also currently meeting service demands. Due to the high rate of growth in the county over the last several years, and the expected continuance of such growth, Northland Cable has, however, expressed concern about its ability to meet future demand. Northland is therefore upgrading its facilities in order to account for increased growth that is expected in its service area.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes policies and implementation measures to address the effect of development on utility systems. The following policies and programs address the implications of the *Land Use Diagram* for water supply, treatment, and delivery.

General Public Facilities and Services Policies

- 3.A.1. *The County shall ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the applicant can demonstrate that all necessary public facilities will be installed or adequately financed and maintained (through fees or other means).*
- 3.A.2. *The County shall ensure that public facilities and services are developed and operational as they are needed to serve new development.*
- 3.A.4. *The County shall discourage expansion of rural communities unless necessary services can be provided.*

- 3.A.5. *The County shall encourage the placement of irrigation canals underground as urban development takes place.*

Programs

- 3.1. *The County shall establish an annual monitoring and reporting program to evaluate facility capacity and service levels.*
- 3.2. *The County shall ensure that capital improvement programs (CIPs) or area facilities plans are prepared in conjunction with new area plans and specific plans and are reviewed annually and updated as needed. These CIPs should identify improvement needs for the succeeding five-year period.*

Public Facilities and Services Funding Policies

- 3.B.1. *The County shall require that new development pay its fair share of the cost of developing new facilities and services and upgrading existing public facilities and services subject to the requirements of California Government Code Section 66000 et seq. (AB 1600); exceptions may be made when new development generates significant public benefits (e.g., low income housing) and when alternative sources of funding can be identified to offset foregone revenues.*
- 3.B.2. *The County shall seek broad-based funding sources for public facilities and services that benefit current and future residents of the county.*

Programs

- 3.4. *The County shall develop and adopt ordinances specifying acceptable methods for new development to pay for new capital facilities and expanded services. Possible mechanisms include development fees, assessment districts, land/facility dedications, county service areas, and community facilities districts.*
- 3.5. *The County shall adopt and periodically update fee schedules for new development to fund needed public facilities and services.*

Utility Services Policies

- 3.J.1 *The County shall facilitate the provision of adequate gas and electric, communications, and telecommunications service and facilities to serve existing and future needs while minimizing noise, electromagnetic, and visual impacts on existing and future residents.*
- 3.J.2 *The County shall work with local gas and electric utility companies to design and locate appropriate expansion of gas and electric systems.*
- 3.J.3 *The County shall require proposed new development in identified underground conversion districts and along scenic corridors to underground utility lines on and adjacent to the site of proposed development or, when this is infeasible, to contribute funding for future undergrounding.*

These policies and programs would generally ensure that new development provide for and fund the public facilities and services necessary to address the demand generated by that development. Specifically, they focus on the provision of adequate utility services for new development.

IMPACTS

With the successful implementation of these policies and programs, the impact of new development on the ability to provide adequate non-municipal utility services will be less than significant

MITIGATION MEASURES

No additional mitigation measures other than *General Plan* policies and programs are necessary.

5.8 SCHOOLS

ENVIRONMENTAL SETTING

Madera County is served by six elementary school districts, five high school districts, and one unified district. Nine of the districts have schools in Madera County, with a total of 37 schools and a student population of 21,571 in the 1992/93 school year. Sierra High School District does not have any schools in Madera County but serves students graduating from Madera County elementary schools. Firebaugh High School District includes territory within the far southwestern part of the county. Because this area includes very little existing residential development and is not projected for future growth, this district is not analyzed in this EIR. Impacts of growth on the following school districts are assessed in this section:

1. Alview/Dairyland Union Elementary School District
2. Bass Lake Elementary School District
3. Chawanakee Joint Elementary School District
4. Chowchilla Elementary School District
5. Chowchilla Union High School District
6. Coarsegold Union Elementary School District
7. Madera Unified School District
8. Raymond-Knowles Union Elementary School District
9. Yosemite Union High School District
10. Sierra High School District

A summary of the schools in each district and their 1992/93 enrollment is provided in Table 5-8. The *General Plan Background Report* includes a detailed discussion of each of these ten school districts and a map of their boundaries.

TABLE 5-8
SCHOOL DISTRICTS ENROLLMENT AND STUDENT YIELD FACTORS

School District	Schools	1992/93 Enrollment	Student Yield Factor
Elementary (K-8)			
Alview-Dairyland Elementary	Alview School (K-2)	124	0.42
	Dairyland School (3-8)	238	
	Total enrollment	362	
Chowchilla Elementary	Stephens School (K)	176	0.64 ^a
	Fuller School (1-3)	576	
	Fairmead School (4-5)	325	
	Wilson School (6-8)	487	
	Total enrollment	1,564	
Raymond-Knowles Elementary	Raymond-Knowles Elementary (K-8)	97	0.45 ^b
Coarsegold Union Elementary	Coarsegold Elementary (K-8)	530	0.54
	Rivergold School (K-6)	338	
	Total enrollment	868	
Bass Lake Elementary	Oakhurst Elementary School (K-5)	487	0.49
	Oak Creek Intermediate (6-8)	308	
	Wasuma Elementary (K-8)	315	
	Bass Lake Elementary (K-8)	116	
	Wawona Elementary (K-6)	21	
	Mountain Home (K-8)	85	
	Total enrollment	1,332	
Chawanakee Joint Elementary	North Fork School (K-8)	450	0.40
	Spring Valley Elementary (K-8)	225	
	Sierra View Elementary (K-6)	275	
	Chawanakee School (K-8)	16	
	Total enrollment	966	
Madera Unified (K-8 schools)	John Adams Elementary (K-6) ^d	854	0.49 ^c
	Alpha Elementary (K-6) ^d	1,011	
	Berenda Elementary (K-8) ^d	1,045	
	Dixieland Elementary (K-8)	387	
	Eastin Arcola Elementary (K-8)	651	
	Howard Elementary (K-8)	415	
	Thomas Jefferson Junior High (7-8)	1,165	
	La Vina Elementary (K-8)	326	
	Millview Elementary (K-8) ^d	893	
	Monroe Elementary (K-6) ^d	1,104	
	Ripperdan Elementary (K-8)	270	
	Sierra Vista Elementary (K-6) ^d	970	
	Washington Elementary (K-6) ^d	812	
	Webster Elementary (K-8) ^d	962	
	Total Enrollment (Elementary)	10,865	
Total Elementary		16,054	N/A

TABLE 5-8 (Continued)

SCHOOL DISTRICTS ENROLLMENT AND STUDENT YIELD FACTORS

High School			
Madera Unified (9-12 only)	Madera High School (9-12) Furman High School (Madera HS extension) Total Enrollment (High School)	2,808 1,217 4,025	0.14 ^c
Chowchilla Union High	Chowchilla Union High School (9-12)	622	0.27
Yosemite Union High	Yosemite Union High School (9-12)	870	0.31
Sierra High	Sierra High	672	0.17
Total High School		6,154	N/A
TOTAL, ALL ENROLLMENT		22,208	N/A
Notes:			
^a Yield factor for Chowchilla Elementary School District is a composite of single and multi-family yield factors provided by the District; assumes 80% single family and 20% multi-family			
^b The Raymond-Knowles Union Elementary School District does not have an adopted student yield factor so an average of 0.45 was used for purposes of analysis			
^c Yield factors for Madera Unified School District are composite of single and multi-family yield factors; assumes 75% single family and 25% multi-family			
^d Year-round schools			

The eight geographic analysis areas used in this *EIR* do not correspond to the boundaries of school districts. The analysis in this section, is therefore, organized according to school district. Although the *Rio Mesa Area Plan* contemplates consolidation of the Rio Mesa area into a single school district (it is currently divided between the Madera Unified and Chawanakee/Sierra Joint Union), the feasibility or likelihood of such a consolidation has not yet been determined. For the purposes of this EIR, therefore, no changes in school district boundaries are assumed. Table 5-9 discusses the relationship between the eight geographic analysis areas and the school districts.

TABLE 5-9
RELATIONSHIP OF SCHOOLS DISTRICTS AND GEOGRAPHIC ANALYSIS AREAS

School District	Geographic Analysis Area
Alview-Dairyland Elementary	West area
Chowchilla Elementary	Part within West area Part of Chowchilla/Fairmead area Part of Raymond/Central area
Raymond-Knowles Elementary	Part of Raymond/Central area Small part of North 41 Corridor area
Coarsegold Union Elementary	Part of North 41 Corridor area Small part of Raymond/Central area
Bass Lake Elementary	Part of North 41 Corridor area Part of East area Very small part of Raymond/Central area
Chawanakee Joint Elementary	Includes all of North Fork/Millerton area Includes part of North 41 Corridor area Includes part of South 41 Corridor area Includes part of East area
Madera Unified	Includes all of Madera area Includes part of West area Includes part of South 41 area Includes part of Raymond/Central area
Chowchilla Union High	Includes part of West area Includes all of Chowchilla/Fairmead area Includes part of Raymond/Central area
Yosemite Union High	Includes part of Raymond/Central area Includes part of North 41 Corridor area Includes part of East area
Sierra High	Includes all of North Fork/Millerton area Includes part of North 41 Corridor area Includes part of South 41 Corridor area Includes part of East area

METHODOLOGY

Because the boundaries of the school districts do not coincide with the geographic analysis areas or subareas, estimates of the total number of dwelling units in each school district were made based on data by traffic analysis zone. The total number of housing units was multiplied by each district's adopted standard for number of students per housing unit, or "student yield factor." The assumed student yield factors used for the various districts are listed in Table 5-8.

Total students in the 1992/93 school year was subtracted from total students in 2010 to estimate the additional number of students that could be anticipated from development under the *General Plan*.

Assumptions

1. Development will occur consistent with the estimates described in Chapter 2 of this *EIR*.
2. New elementary schools will accommodate 400 to 600 students on a traditional school year.
3. New high schools will accommodate 1,000 to 2,500 students on a traditional school year.
4. School districts will have the ability to collect developer fees to the maximum allowed by state law.
5. No changes in school district boundaries are assumed.

Thresholds of Significance

For purpose of this EIR, the *General Plan* would have a significant impact if demand for school facilities exceeded available capacity, without the ability to develop adequate schools to serve new demand, or if growth under the *General Plan* would result in larger class sizes or lower levels of educational services.

IMPLICATIONS OF THE LAND USE DIAGRAM

Table 5-10 lists total student enrollment in 2010 and the estimated change in enrollment from 1992 to 2010. The implications for each of the districts are described below.

TABLE 5-10
ESTIMATED ENROLLMENT CHANGES
1993 to 2010

School District	Student Yield	DUs in 2010	Students 2010	Students 1992-93	Change from 1993 to 2010
Elementary					
Alview-Dairyland Elementary	0.42	758	318	362	-44
Bass Lake Elementary	0.49	8,211	4,023	1,332	2,691
Chawanakee Joint Elementary	0.40	6,162	2,465	966	1,499
Chowchilla Elementary	0.64	5,001	3,200	1,564	1,636
Coarsegold Union	0.54	4,316	2,330	868	1,462
Madera Unified (K-8)*	0.48	36,939	17,731	10,865	6,866
Raymond-Knowles Elementary	0.45	405	182	97	85
Subtotal, Elementary		61,790	30,249	16,054	14,195
High School					
Chowchilla Union High	0.27	5,759	1,555	622	933
Madera Unified (9-12)*	0.15	36,939	5,541	4,025	1,516
Sierra High	0.17	6,162	1,048	637	411
Yosemite Union High	0.31	12,931	4,009	870	3,139
Subtotal, High School		61,790	12,153	6,154	5,999
TOTAL ENROLLMENT		61,790	42,402	22,208	20,194

*Composite student yield factor; assumes 25 to 30 percent multi-family units

Source: J. Laurence Mintier & Associates, October 1995

Alview-Dairyland Union Elementary School District

The two schools in the Alview-Dairyland Union Elementary District had available capacity in 1993 and neither was using any portable units. Future growth in the area is expected to be handled fairly easily with little impact to either school.

Bass Lake School District

The five schools in the Bass Lake School District (along with the Mountain Home program) enrolled a population of 1,332 students in the 1992/93 school year. Every school in the district has at least one portable classroom to offset the lack of permanent classroom space, with some schools having several.

Future student population is projected to increase three-fold to a total enrollment of 4,023 in 2010. Assuming 500 students per school, at least five new schools would be required to serve projected growth, and some expansion at existing sites.

Chawanakee Joint School District

In the 1992/93 school year, the district had a total student population of 966 in four schools. In 1993, the District cited overcrowding at Sierra View and Spring Valley schools, which the District believes will lead to the use of portable classrooms in the near future. State budget cuts also forced the closure (for one year at least) of the Chawanakee School due to lack of funding; students are bussed to North Fork School.

Future student population is projected to increase by 1,499 to a total of 2,465 in 2010. This would require the development of at least two new schools and the reopening of the Chawanakee School.

Chowchilla Elementary School District

In the 1992/93 school year, the Chowchilla Elementary School District had four schools with a total student population of 1,564. All of the schools in the district use portable classrooms. Enrollment in the Chowchilla Elementary School Districts is projected to increase by 1,636 students to a total enrollment of 3,200 in 2010. Assuming 500 to 600 students per school, three new schools would be required to serve new development in this area.

Approximately half of this growth is assumed to occur within the Chowchilla city limits and half in the unincorporated area.

Chowchilla Union High School District

The Chowchilla Union High School District consists of one high school with an enrollment of 622 students in the 1992/93 school year. The high school building facilities were at capacity as of 1992/93; however, the site is adequate to accommodate substantial expansion.

Enrollment in the district is projected to increase by 933 students to a total of 1,555 in 2010. This student population could be accommodated at the existing site with the construction of additional classrooms and facilities. Approximately half of the increase in enrollment is assumed to occur within the Chowchilla city limits and half in the unincorporated area.

Coarsegold Union School District

The Coarsegold Union School District had an enrollment of 868 students at two schools during the 1992/93 school year. The District has seven portable classrooms in operation at Rivergold School and three at Coarsegold School. Future enrollment in the district is projected at 2,332 in 2010, an increase of 1,462 students. Approximately three new schools would be required to serve this growth, assuming 500 students per school.

Madera Unified School District

Madera Unified School District is the largest school district in the county. In 1992/93, the district included 16 schools with a total student enrollment of 14,890. Of this total, 10,865 are in grades K-8, while 4,025 were enrolled in high school. Many of the district's elementary schools are on year-round schedules. A new elementary school was scheduled to open in 1993/94 in the city of Madera, and a new junior high is also planned for Madera Unified in the east part of Madera to open in 1996.

Total elementary (K-8) enrollment in 2010 is projected at 17,731, an increase of 6,866. Of this total, 4,100 students are projected within the City of Madera's General Plan Area. With the addition of the new elementary school in Madera, future growth would require a minimum of eight more elementary schools (assuming 800 students per school on year-round programs), roughly five in the Madera General Plan Area and three outside it.

Total high school (9-12) enrollment in 2010 is projected at 5,541, an increase of 1,516. This would require an additional high school campus.

Raymond-Knowles Union Elementary School District

The Raymond-Knowles Union Elementary School District has one school with 97 students in 1992/93. Future student enrollment in this area is projected at 182, an increase of 85 students. The school should be able to accommodate this increase in enrollment.

Yosemite Union High School District

Yosemite Union High School in Oakhurst is the only school in the Yosemite Union High School District. Enrollment at Yosemite High School in 1992/93 was 870. Enrollment is projected to increase by 3,139 students to total enrollment of 4,009 in 2010. Two new campuses will be required to serve this development.

Sierra Joint Union High School District

The Sierra Joint Union High School is part of a joint district that encompasses portions of both Madera and Fresno Counties. Students graduating from Chawanakee Elementary School District attend Sierra Joint Union High School in Tollhouse. Total enrollment (from both Fresno and Madera County students) in 1992/93 was 1,002; an estimated 637 are from Madera County. The District is concerned with the distance that students in Madera County must travel to attend Sierra Joint Union High School. As of February 1994, the District is considering the possibility of a new facility, and looking at financing options and siting alternatives.

Future growth in Madera County will increase enrollment in the Sierra Joint Union High School by 411 students. Combined with population growth in Fresno County, this is likely to exhaust capacity at the district, in addition to requiring substantial numbers of students traveling outside the county.

Given the growth in the Yosemite Union High School District, development of a new campus to jointly serve students from both districts would best serve new development in Madera County.

GENERAL PLAN POLICY RESPONSE

The following policies and programs of the *Land Use Diagram* address the implications of the *Land Use Diagram* for school facilities and services.

Schools Siting Policies

- 3.I.1. *The County shall work cooperatively with school districts in monitoring housing, population, and school enrollment trends and in planning for future school facility needs, and shall assist school districts in locating appropriate sites for new schools.*

- 3.I.2. *The County's land use planning should be coordinated with the planning of school facilities and should involve school districts in the early stages of the land use planning process.*
- 3.I.3. *The County should plan and approve residential uses in those areas that are most accessible to school sites in order to enhance neighborhoods, minimize transportation requirements and costs, and minimize safety problems.*
- 3.I.4. *The County shall include schools among those public facilities and services that are considered an essential part of the infrastructure and shall work with local school districts to see that facilities and services are provided to meet educational needs.*
- 3.I.5. *The County shall encourage the location of schools in areas with safe pedestrian and bicycle access.*
- 3.I.6. *The County shall forward all general plan, area plan, specific plan, zoning, subdivision and annexation applications, and related environmental documents to the school district(s) which may be affected by the applications for review at the earliest possible stage in the application review process.*
- 3.I.7. *Specific plan and area plans shall identify school facilities required to serve the development encompassed by the plans and shall provide a mechanism to ensure that the school facilities will be available concurrent with the need for the facilities.*

School Financing Policies

- 3.I.8 *Where legally permissible, the County shall provide a mechanism which, along with State and local sources, requires development projects to fully mitigate their impacts on school facilities if the affected school district documents to the Planning Commission and Board of Supervisors that adequate school facilities cannot be made available concurrent with the need for such facilities. The documentation shall include, but is not necessarily limited to, all of the following:*
 - a. *The school district has imposed school mitigation fees pursuant to Government Code Section 53080 and said fees are not adequate to address school facility impacts;*
 - b. *The school district has filed a copy of its adopted School Facilities Master Plan with the Planning Department; and*
 - c. *The school district demonstrates that it has pursued and exhausted all other legally permissible means of providing adequate facilities to serve the development project.*
- 3.I.9. *The County shall support the use of special school funding mechanisms such as local fees, assessment districts, and bond issues.*
- 3.I.10. *The County shall encourage school districts to take actions necessary to qualify for state school funds. The County shall support enactment of state legislation to finance the construction of new schools and shall support the modification of state laws and regulations to improve the funding of new school sites and facilities.*
- 3.I.11. *Whenever possible, the County shall support and participate with school districts in joint development of recreation areas, turf areas, and multi-purpose buildings.*

3.I.12. The County and the school districts should work together in using existing school facilities for non-school-related and child care activities.

These policies support appropriate siting of school facilities and call for the County to work together with school districts to seek methods to adequately finance school facilities needed as the result of new development.

IMPACTS

Development under the General Plan will require the development of new schools in the following districts: Bass Lake Elementary School District, Chawanakee Joint Elementary School District, Coarsegold Union School District, Chowchilla Elementary School District, Madera Unified School District, Sierra High School District, and Yosemite Union High School District. Policy 3.I.8 requires full mitigation of school impacts, to the extent legally permissible. This would mitigate the impacts on new school development in most cases to a less-than-significant level. This policy could be applied only where the County has discretionary authority over new development, however. This would exclude development within city limits and approved subdivisions. Development in the Madera Ranchos and Bonadelle Ranchos, Valley Lake Ranchos, Lake Madera Country Estates, Madera Acres area, and approved subdivisions in the foothills would continue to develop and affect school facilities, and might develop at a faster rate because of the lower housing costs associated with lower school mitigation costs. Addressing the impacts of existing and approved development would require voter approval of a school bond, requiring the support of a two-thirds of the voters. Issuance and passage of such measures is difficult and cannot be guaranteed by the County. Even with the requirement that new development fully mitigate school facilities, therefore, future development would still have a significant impact on the Madera Unified School District, where most of the approved subdivisions are located.

Development under the General Plan will require the development of new schools in the Bass Lake Elementary School District, Chawanakee Joint Elementary School District, Coarsegold Union School District, Chowchilla Elementary School District, Madera Unified School District, Sierra High School District, and Yosemite Union High School District, and would require expansion of Chowchilla Union High School. In addition, additional funding would be required in connection with the providing educational services and ongoing operations and maintenance for additional students. Because of state budgetary constraints, ongoing state funding has become more limited, and growth within the school districts in Madera County will require increased state funding. The County cannot guarantee that adequate funding levels will be available to provide for maintenance of levels of funding in these school districts. This is considered a potentially significant impact.

MITIGATION MEASURES

Other than approval of a bond measure and state funding, there are no mitigation measures available that could mitigate the impacts of continued development in approved subdivisions within the Madera Unified School District to a less-than-significant level. Since the County cannot guarantee these measures, this impact is still considered potentially significant.

There are no mitigation measures available to ensure adequate state funding of school operations in the future. This impact is considered significant and unavoidable.

CHAPTER 6

RECREATIONAL AND CULTURAL RESOURCES

This chapter assesses the potential implications of development under the *General Plan* on Madera County's recreational and cultural resources. The chapter first focuses on the type and level of demand likely to be generated by development estimated to occur within the county by the year 2010. It then assesses the potential implications of that development on the county's cultural resources, including archaeological and historical resources.

6.1 RECREATIONAL RESOURCES

This section describes the likely effects of development under the *General Plan* on Madera County's recreational resources. Specifically, this section focuses on how development and associated population growth will affect the demand for recreational facilities and services.

ENVIRONMENTAL SETTING

Madera County does not have a park or recreation department and does not play a significant role in providing recreational facilities or services. The federal government, through its ownership of public open land in the Sierra National Forest, provides an abundance of recreation and tourism opportunities for the eastern part of the county and to visitors from outside Madera County.

Madera County's park and recreational facilities are described in Chapter 5 of the *Background Report*. The setting is summarized by geographic analysis area below.

West/Agriculture

The western part of Madera County does not benefit from the type of local, state, or federal recreational resources that are available in other parts of the county. Residents must rely on schools, private recreation facilities, and city parks in Madera and Chowchilla, as well as recreational facilities in Fresno.

Chowchilla/Fairmead

Formal park and recreation opportunities in the Chowchilla/Fairmead area are limited to those provided by the City of Chowchilla. There are no formally-designated parks or recreation areas in the unincorporated area. The City and the County, along with private developers, have, however, cooperated in planning the proposed Chowchilla Bike and Hike Trail. When completed, the trail would offer a clearly designated route for cyclists, joggers, and recreational walkers. The City of Chowchilla is currently in the process of obtaining a right-of-way easement for the path. Design work is scheduled to begin in winter of 1993 and construction for spring of 1994.

Madera

As with the Chowchilla/Fairmead area, the only formal park and recreation opportunities in the Madera area are provided by the City of Madera. There are no formally-designated parks or recreation areas in the unincorporated area.

Raymond/Central

The only recreation facility in the Raymond/Central area is the Eastman Lake Recreation Area, which surrounds the reservoir created by Buchanan Dam on the Chowchilla River, approximately 25 miles northeast of Chowchilla. Eastman Lake offers hiking and equestrian trails, a campground, boating ramps, and picnicking.

South 41 Corridor

The South 41 Corridor area contains no formally-designated parks or recreation areas. The proposed San Joaquin River Parkway, a joint effort between the City of Fresno, Fresno and Madera Counties, and private developers, would, however, create a "parkway" along the San Joaquin River from Friant Dam in Fresno County to Highway 99 in Madera County. The parkway would provide an elongated park area and natural land that would provide a combination of low-intensity recreational uses and wildlife protection. Recreational activities would likely include hiking, jogging, bicycling, swimming, canoeing, picnicking, fishing, golfing, informal play areas, equine riding, and nature observation. The Parkway is still in the design stages.

North 41 Corridor

The North 41 Corridor includes many recreational resources. The Wassama Round House in Ahwahnee is one of only two or three authentic ceremonial Indian Roundhouses surviving in California. The Round House is maintained by members of local Miwok Indian tribes under the sponsorship of the California State Park system. The Park is open daily and guided tours of the park are available by appointment with a small fee.

In addition to the Wassama Roundhouse, the North 41 Corridor area contains the Hensley Lake Recreation Area and Bass Lake. Created by the mile-long Hidden Dam on the Fresno River and located about 17 miles northeast of Madera, Hensley Lake provides camping, fishing, picnicking, waterskiing and other recreational activities. Hensley Lake is maintained by the U.S Army Corps of Engineers. Officially called Crane Valley Reservoir, Bass Lake was created in 1899 when a small dam was built in Crane Valley. Bass Lake has been a favorite spot of fishermen, water skiers, and picnickers due to its low elevation, proximity to the valley, and quality facilities.

The only locally-operated park in the North 41 Corridor is the Oakhurst Park is a community open space and playground area administered and maintained by the Oakhurst community.

Also proposed for the North 41 Corridor is the Oakhurst River Parkway, which would provide a scenic walking path with pedestrian bridges, lighting, and observation decks along the Fresno River at Highway 41 to the Yosemite High School campus. The County has already been successful in obtaining a \$47,500 grant from the California Department of Water Resources to improve conditions such as erosion and flood control.

North Fork/Millerton

The Squaw Leap Recreation Area, owned by the Bureau of Land Management (BLM), straddles the San Joaquin River in both Fresno and Madera Counties. Most of the development of the site is on the Fresno side of the river; however, a 10-mile loop trail is located mostly on the Madera County side of the area, as are picnic sites and other recreational opportunities.

The Millerton Lake State Recreation Area, which is located on approximately 5,700 acres in Madera and Fresno Counties, offers such facilities as boat ramps and docks, campgrounds, picnic facilities, public restrooms, and drinking water.

The only locally-administered and maintained recreation facility in the North Fork/Millerton area is the North Fork Recreational Center, which is a recreational area operated by the North Fork Boosters. The recreational center, located on the south fork of the Willow Creek at Road 225, offers swimming areas, ball fields, volleyball courts, picnic areas with barbecues, amphitheaters, restrooms, and parking. The center is supported and used by many community groups in addition to the North Fork Boosters.

East/National Forest

The Sierra and Inyo National Forests comprise approximately 447,000 acres of the eastern county, with the Sierra covering most of the acreage. Because of their status as publicly-owned open space and their inviting environments, these national forests provide many of Madera County's recreational opportunities.

Camping is the most prevalent recreation opportunity in the Sierra National Forest, with 23 campgrounds in the Madera County portion of the park. These campgrounds offer a wide range of amenities from RV campgrounds with full hookups to areas that do not have potable water on site. Activities at these campgrounds vary from location to location and may include fishing, swimming, boating, equestrian trails, and hiking on National Forest hiking trails. In addition these campgrounds, the Sierra National Forest administers and maintains a number of back country and day-use facilities. Also within the Sierra National Forest is Nelder Grove, a redwood grove designated as a Scenic Area that includes a number of hiking trails and scenic spots.

About 100,000 acres of the Ansel Adams Wilderness lies within Madera County, straddling the boundaries of the Sierra and Inyo National Forests. This congressionally-designated wilderness area can only be entered on horse or foot. Primary recreation opportunities are backpacking, hiking, and trail pack-riding.

The Devil's Postpile National Monument, officially designated by President Taft in 1911, is located in eastern Madera County in the Inyo National Forest. The monument consists of a mass of basaltic columns varying in size from ten to thirty inches in diameter and in some cases as tall as 60 feet.

In addition to the national forests in the eastern part of the county, a part of Yosemite National Park occupies a large region in northeast Madera County. This part of Yosemite includes a number of backcountry trails, streams, and small lakes. While the majority of the Park's recreational opportunities lie outside Madera County, the park's proximity makes it a significant recreational resource for Madera County.

Recreational lakes in the eastern part of Madera County provide significant recreational value. Mammoth Pool is a major trout lake located approximately 40 miles east of North Fork on the San Joaquin River. Southern California Edison maintains the dam while the U.S. Forest Service maintains the recreation facilities. A boat-in campground is in place on site.

The eastern part of Madera County also contains numerous privately-owned and operated group camping facilities. Sponsorship of the camps is varied; many are affiliated with church organizations, while some are traditional summer camps.

METHODOLOGY

For purposes of determining the impacts of development under the *General Plan*, the park acreage standard proposed in the *Policy Document* (i.e., 3 acres of improved parkland) has been applied to assumed population growth estimates for each of the county's eight geographic analysis areas, as well as the subareas within each.

According to Appendix G of the *CEQA Guidelines*, a project will normally have a significant impact on the environment if it conflicts with established recreational uses of the area. This *EIR* defines a significant environmental impact if adoption or implementation of the plan would conflict with recreational uses in the county or if it would create an unmet demand for recreational services.

IMPLICATIONS OF THE LAND USE DIAGRAM

Table 6-1 shows the amount of improved parkland that would be needed to accommodate the increase in population provided for by the *General Plan* based on the park acreage standard stated in the *Policy Document*.

As Table 6-1 indicates, in 2010 the estimated increase in population resulting from development under the *Land Use Diagram* would require a total of 266.9 acres of improved parkland be provided to satisfy the *Policy Document's* standard. Approximately 40 percent of this acreage (90.6 acres) would be required within the cities of Chowchilla and Madera, mostly within Madera (80.2 acres), and are therefore not considered an impact of the Madera County General Plan. The following paragraphs discuss the specific implications of providing parkland to serve unincorporated area development within each of the geographic analysis areas.

TABLE 6-1

**POPULATION CHANGES AND ASSOCIATED NEW PARK ACREAGE REQUIREMENTS
1990 and 2010**

Geographic Analysis Area	Total in 1990		Total in 2010		1990 to 2010 Change	
	Pop	Acreage	Pop	Acreage	Pop	Acreage
West/Agriculture	7,903	23.7	11,743	35.2	3,840	11.5
Chowchilla/Fairmead						
Incorporated Chowchilla	6,043	18.1	9,501	28.5	3,458	10.4
Unincorporated. Area	2,408	7.2	3,561	10.7	1,153	3.5
Subtotal	8,451	25.4	13,062	39.2	4,611	13.8
Madera Area						
Madera General Plan Area	36,588	109.8	63,323	190.0	26,735	80.2
State Center CC Area	67	0.2	7,600	22.8	7,533	22.6
Other unincorporated. area	6,030	18.1	12,014	36.0	5,984	18.0
Subtotal	42,685	128.1	82,937	248.8	40,252	120.8
Raymond/Central	2,204	6.6	3,613	10.8	1,409	4.2
South 41 Corridor						
Rio Mesa	187	0.6	10,545	31.6	10,358	31.1
Gunner Ranch West	127	0.4	4,133	12.4	4,006	12.0
Remaining area	8,328	25.0	13,472	40.4	5,144	15.4
Subtotal	8,642	25.9	28,149	84.4	19,507	58.5
North 41 Corridor	15,910	47.7	33,318	100.0	17,408	52.2
North Fork/Millerton	2,304	6.9	4,248	12.7	1,944	5.8
East/National Forest*	0	0.0	0	0.0	0	0.0
Total	88,099	264.3	177,071	531	88,972	266.9

*All units are assumed to second homes/vacation homes, without permanent residents.

West/Agriculture

According to the parkland standard in the *Policy Document*, the unincorporated area population growth estimated for 2010 within the West/Agriculture area would require 11.5 acres of improved parkland. Since most of this population is expected to result from widely dispersed agricultural/residential development, it would be impractical to satisfy the standard through development of smaller neighborhood or community parks. Accordingly, the most effective way to satisfy the estimated demand would probably be with a larger regional park, in the range of 50 to 500 acres. A new regional park could also offset the "parkland deficit" in this part of the county resulting from the lack of improved parks to serve existing residents, and could also serve existing and future residents from the Chowchilla/Fairmead and Madera areas.

Since no recreational facilities currently exist in this area, other than those on school grounds, development under the *Land Use Diagram* would not interfere with any established recreational uses.

Chowchilla/Fairmead

Most of the estimated improved parkland demand in this area would result from development within the city of Chowchilla (10.4 of 13.8 acres). According to the *Policy Document* standard, however, development in the unincorporated area would generate a demand for about 3.5 acres.

Current recreational facilities available in this area are the City of Chowchilla's parks, and a planned bike and hike trail. Development in this area would support these uses and would not interfere with any existing recreational uses.

Madera

As in the Chowchilla/Fairmead area, most of the estimated parkland demand in the Madera area would be associated with incorporated growth (80.2 of 120.8 acres in Madera). Another 22.6 acres would result from development in the State Center Community College project; this acreage could be provided with financing mechanisms developed in conjunction with specific planning efforts for this area. The balance of unincorporated development would result in demand for 18.0 acres.

Existing recreational facilities in this area include the City parks; the City and County are also developing a joint bike plan that will be consistent with their General Plans. Development in this area would not interfere with any existing recreational uses.

Raymond/Central

Development at year 2010 in the Raymond/Central area would generate a demand for 4.2 additional acres of improved parkland, according to the standard set in the *Policy Document*. Development is not proposed around the Eastman Lake Recreation Area and would therefore not affect its use.

South 41 Corridor

The additional parkland demand resulting from 2010 development in this area would be approximately 58.5 acres, most of which (43.1 acres) would be attributable to development in the Rio Mesa and Gunner Ranch new growth areas. The area plans for these projects will provide mechanisms for provision of parks to serve future residents. Estimated population growth in the remaining area would generate demand (15.4 acres) that would have to be satisfied through other means. Development of one or more parks in the Bonadelle/Madera Ranchos area could also serve unmet demand of existing residents.

The San Joaquin River provides a recreational opportunity in this area, although it is not currently developed for public recreational purposes. The San Joaquin River parkway proposed in this area would serve this function among others. Development in the Rio Mesa new growth area could potentially limit access to the Parkway or limit its public acquisition.

North 41 Corridor

The *Land Use Diagram* provides for a substantial amount of development in the North 41 Corridor, most of which is attributable to existing area plans. The estimated improved park acreage demand resulting at year 2010 from this development would be 52.2 acres.

The North 41 Corridor area is an area of scenic beauty and includes many recreational facilities that attract visitors from within and outside the county, including the Wassama Round House, Bass Lake, and Hensley Lake. It is also a major travel corridor for visitors to the Yosemite Valley. Inappropriate development in this area could interfere with the area's scenic beauty. The location of planned development should not affect existing recreational facilities.

North Fork/Millerton

Development under the *Land Use Diagram* in the North Fork/Millerton area will result in the demand for an additional 5.8 acres of improved parkland.

Existing recreational facilities in the area including the Lake Millerton State Recreation Area, the Squaw Leap Lake Recreation area, and the North Fork Recreation Center. Development in this area should not affect these existing recreational facilities.

East/National Forest

Since no permanent population growth is associated with projected development in the East/National Forest part of the county, there will be no additional demand for improved parkland as a result of 2010 development under the *Land Use Diagram*.

This area will continue to attract visitors from within and outside the county to its recreational opportunities. Development according to the *Land Use Diagram* will not interfere with these recreational uses.

GENERAL PLAN POLICY RESPONSE

Several sections of the *Policy Document* include policies and programs related to the provision of recreation and parks and the preservation and enhancement of recreational opportunities. Section 4 of the *Policy Document* specifies policies and programs to guide the provision of both active and passive recreation opportunities for existing and future residents and visitors. The following policies and programs address the implications of the *Land Use Diagram* on recreation and parks.

Industrial/Economic Development Policies

1.E.1. The County shall promote new industrial development that has the following characteristics:

- a. Adequate infrastructure and services;*
- b. Convenient connections to the regional transportation network, including connections to existing transit and other non-automobile transportation;*
- c. Sufficient buffering from residential areas to avoid impacts associated with noise, odors, and the potential release of hazardous materials;*
- d. Mitigable environmental impacts; and*
- e. Minimal adverse effects on scenic routes, recreation areas, and public vistas.*

1.E.4. The County shall endeavor to protect the natural resources upon which the county's basic economy (e.g., agriculture, forestry, recreation, and tourism) is dependent, and shall promote economic expansion based on Madera County's unique recreational opportunities and natural resources.

Visual and Scenic Resources Policies

- 1.H.1. The County shall require that new development in scenic rural areas is planned and designed to avoid locating structures along ridgelines, on steep slopes, or in other highly-visible locations, except under the following conditions:*
- a. Such a location is necessary to avoid hazards; or*
 - b. The proposed construction will incorporate design and screening measures to minimize the visibility of structures and graded areas.*
- 1.H.4. The County shall work with federal and state agencies to conserve forest wilderness and recreation areas.*

Scenic Resources Policies

- 1.I.1. The County shall designate scenic routes to preserve outstanding scenic quality within different geographic settings.*
- 1.I.2. The County shall provide for public access to significant natural and cultural resources and scenic vistas through scenic routes, scenic highways, and scenic byways.*
- 1.I.3. The County shall protect and enhance scenic corridors through such means as design review, sign control, undergrounding utilities, scenic setbacks, density limitations, planned unit developments, grading and tree removal standards, open space easements, and land conservation contracts.*
- 1.I.4. The County shall coordinate scenic route programs among local, regional, and state jurisdictions, recognizing that scenic routes are a resource of more than local importance.*

Programs

- 1.10. The County shall identify routes of scenic eligibility and formally designate and adopt a system of scenic routes. The County shall work with Caltrans in identifying highways of scenic eligibility.*
- 1.11. The County shall review and revise, as necessary, the standards and requirements of the Scenic Overlay Zone of the Zoning Ordinance and make necessary revisions.*

Transit Policies

- 2.B.4. The County shall undertake, as funding permits, and participate in studies of inter-regional recreational transit services to Yosemite.*

Non-Motorized Transportation Policies

- 2.D.1. The County shall promote the development of a comprehensive and safe system of bicycle routes for short-range commuting and shopping trips and recreational uses. Bikeways should be constructed that will serve the greatest number of users.*

- 2.D.2. *The County shall work with cities and neighboring jurisdictions to coordinate planning and development of the County's bikeways and multi-purpose trails with those of neighboring jurisdictions.*
- 2.D.3. *New bikeways should be linked with other bikeways, bicycle rest stops, and parks to provide safe and continuous routes.*
- 2.D.4. *The County shall encourage the provision of bicycle routes along state highways. Where this occurs, automobile and bicycle facilities should be separated.*
- 2.D.5. *The County shall pursue all available sources of funding for the development and improvement of trails for non-motorized transportation (bikeways, pedestrian, and equestrian).*
- 2.D.6. *The County shall promote non-motorized travel (bikeways, pedestrian, and equestrian) through appropriate facilities, programs, and information, including through the school system and local media.*
- 2.D.7. *The County shall require developers to finance and install pedestrian walkways, equestrian trails, and multi-purpose paths in new development, as appropriate.*
- 2.D.8. *The County shall support the development of parking areas near access to hiking and equestrian trails.*

Programs

- 2.19. *The County shall prepare a Bicycle Master Plan jointly with the City of Madera consistent with the City and County General Plans.*
- 2.20. *The County shall require that bikeways recommended in the Bicycle Master Plan be developed when roadway projects are constructed and when street frontage improvements are required of new development.*
- 2.21. *The County shall develop and adopt standards for bicycle, pedestrian, and equestrian facilities. These standards should vary by types of land use and terrain. Until such standards are adopted, the County shall continue to use state standards as guidelines for construction of bicycle lanes and bicycle trails.*

Storm Drainage and Flood Control Policies

- 3.E.8. *The County shall consider recreational opportunities and aesthetics in the design of stormwater ponds and conveyance facilities.*

Schools Policies

- 3.I.11. *Whenever possible, the County shall support and participate with school districts in joint development of recreation areas, turf areas, and multi-purpose buildings.*

Public Recreation and Parks Policies

- 4.A.1. *The County shall ensure that a mechanism is in place to assure the development of new recreational facilities as new residential development occurs.*
- 4.A.2. *The County shall promote continued and expanded use of national forest, national park, and wilderness areas to meet the recreational needs of Madera County residents.*
- 4.A.3. *The County shall support and participate in the development of the San Joaquin River Parkway.*
- 4.A.4. *The County shall strive to achieve and maintain a standard of three acres of improved parkland per 1,000 population.*
- 4.A.5. *The County shall require the dedication of land and/or payment of fees, in accordance with state law and local authority (e.g., Quimby Act) to ensure funding for the acquisition and development of public recreation facilities. The fees are to be set and adjusted as necessary to provide for a level of funding that meets the actual cost to provide for all of the public parkland and park development needs generated by new development.*
- 4.A.6. *The County shall consider the creation of assessment districts, county service areas, community facilities districts, or other types of districts to generate funds for the acquisition and development of parkland and/or historical properties as development occurs in the county.*
- 4.A.7. *The County shall encourage federal, state, and local agencies currently providing recreation facilities to maintain, at a minimum, and improve, if possible, their current levels of service.*
- 4.A.8. *The County shall encourage the development of parks near public facilities such as schools, community halls, libraries, museums, prehistoric or historic sites, and open space areas and encouragement joint-use agreements whenever possible.*
- 4.A.9. *The County shall encourage the development of public and private campgrounds and recreational vehicle parks where environmentally appropriate. The intensity of such development should not exceed the environmental carrying capacity of the site and its surroundings.*

Private Recreational Facilities and Opportunities Policies

- 4.B.1. *The County shall encourage development of private recreation facilities to reduce demands on public agencies.*

Recreational Trails Policies

- 4.C.1. *The County shall support development of a countywide trail system*
- 4.C.2. *The County shall encourage the preservation of linear open space along rail corridors and other public easements for future use as trails.*
- 4.C.3. *The County shall promote development of a public trail system in connection with development of the San Joaquin River Parkway.*

Programs

- 4.1. *The County shall work with local, state, and federal agencies to complete a comprehensive inventory of all parks and recreation areas and services in the county and to identify other areas suitable for park acquisition and development. The County shall consider preparation of a County park and recreation master plan to provide a policy framework for independent implementation by the cooperating agencies.*
- 4.2. *As new development occurs, the County shall consider formation of county service areas (CSAs) that have the authority to receive dedications or grants of land or funds, plus the ability to charge fees for acquisition, development, and maintenance of parks, open space, and riding, hiking, and bicycle trails.*
- 4.3. *The County should prepare and periodically update a trails plan in conjunction with each area plan and/or specific plan. Trails plans should designate trail components for equestrians, hikers, and cyclists on mountain and non-mountain bikes; contain trail design, access, and construction standards, establish specific plan lines for trails; and identify financing options.*

Wetland and Riparian Areas Policies

- 5.D.7. *The County shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, nutrient catchment, and wildlife habitats. Such communities shall be restored, where possible.*

Flood Hazards Policies

- 6.B.3. *The County shall restrict uses in designated floodways to those that are tolerant of occasional flooding and do not restrict or alter flow of flood waters. Such uses may include agriculture, outdoor recreation, mineral extraction, and natural resource areas.*
- 6.B.5. *The County shall require that flood control structures, facilities, and improvements be designed to conserve resources, incorporate and preserve scenic values, and to incorporate opportunities for recreation, where appropriate.*

These policies and programs establish park and park facility standards and require new development to dedicate land or provide funding to meet these standards. These policies also provide for the location of these facilities where they are needed while minimizing environmental impacts and conflicts with other uses. The policies and programs call for creation of new recreation districts and county service areas where needed to provide and maintain recreational facilities. Policies and programs promote a countywide trail system and require new development to contribute to a trail system and preservation of the county's areas of scenic beauty.

IMPACTS

With full application of the policies and implementation of the programs outlined above, the County should be able to ensure that all residents of Madera County have access not only to active recreational opportunities, but also open space areas for their passive enjoyment. These policies also provide for continued preservation and access to the county's existing recreational facilities and opportunities. The impact of development under

the *General Plan* in terms of the quality and quantity of recreational opportunities for existing and future residents is, therefore, less than significant.

MITIGATION MEASURES

Because the *General Plan* will result in no significant impacts on recreational opportunities, no mitigation measures beyond the *Plan's* policies and programs are necessary.

6.2 CULTURAL RESOURCES

This section summarizes the potential effects of development permitted under the *General Plan* on Madera County's cultural resources, including archaeological and historic resources.

ENVIRONMENTAL SETTING

The patterns of human occupation of the area now known as Madera County have left traces of their existence on the land. Preserving and interpreting these cultural resources is important in terms of public education, as well as preserving the area's historic and prehistoric character. There are slightly more than 2,000 recorded archeological sites in the county, most of which are located in the foothills and mountains. Recorded prehistoric artifacts include village sites, camp sites, bedrock milling stations, pictographs, petroglyphs, rock rings, sacred sites, and resource gathering areas.

Most of the archeological survey work in the county has taken place in the foothills and mountains, with many taking place in the Sierra National Forest to meet the requirements for timber harvesting and salvage plans; thus, there is the large number of recorded sites in the eastern county. This does not mean, however, that no sites exist in the western county, but rather that this area has not been as thoroughly studied.

Madera County also contains a significant number of potentially significant historical sites, including homesteads and ranches, mining and logging sites and associated features (such as small camps, railroad beds, logging chutes, and trash dumps). Table 6-2 lists these sites and the geographic analysis area in which each site is located. A map showing the location of these facilities is included in Chapter 5 of the *Background Report* (Figure 5-1).

TABLE 6-2

POTENTIAL SITES OF LOCAL HISTORIC SIGNIFICANCE
 (See Figure 5-1 of the *Background Report* for Locations)

Area	Site	Description	Location
1	4.	Skaggs Bridge	Highway 145 crossing over the San Joaquin River
1	16.	Gravelly Ford, old Spanish River crossing	San Joaquin River at Road 25
1	19.	Firebaugh Crossing	Firebaugh
2	18.	Chowchilla	
2	31.	Califa	Intersection of Highways 152 and 99
3	15.	Madera County Courthouse Museum	Yosemite Avenue in the city of Madera
3	17.	Borden Town, (Old Alabama Settlement), Central Pacific RR Building, and old Borden Hotel site	Highway 99 at Avenue 12½
3	20.	La Vina district	Avenue 9 and Road 24 area
3	22.	Berenda	
3	29.	Monte Redondo	Road 24 near Avenue 12
3	45.	Intersection of Howard Road, Olive Avenue, and Yosemite Avenue	City of Madera
3	49.	Kismet Tower	Crossing of Southern Pacific and Santa Fe Railroads, east of Madera
4	6.	Grub Gulch/Gambetta Mine area	Road 600, west of Ahwahnee
4	7.	Savage Monument	Bulk Ridge Recreation Area at Hensley Lake
4	12.	Old Fresno Indian Reservation, and markings on the Adobe Ranch	Along the Fresno River, northeast of Madera
4	23.	Raymond "Wildcat Station"	Raymond
4	25.	Knowles Granite Quarry	Knowles
4	28.	Chinese Cemetery	Avenue 12 at Road 28½
4	41.	Summit House	Raymond
5	21.	Trigo	
5	32.	Irrigosa	Highway 99, north of Avenue 9
5	35.	Friant	Now Millerton Lake
5	36.	Ledger Island	San Joaquin, downstream from Friant Dam
5	55.	Lane's Bridge	Old Highway 41 crossing of the San Joaquin River
6	8.	Lady of the Rock, Kelshaw Corner	On the Herrick Brown Ranch (inaccessible)
6	10.	Fine Gold and Coarsegold	
6	11.	Texas Flat Mine	Coarsegold
6	13.	Highway 41 and Road 208	
6	14.	Little Old Shay Engine #1315, Sugar Pine Railroad, "Swiss Melody Inn," Thornberry Mountain Museum, and Yosemite's Old Sugar Pine Railroad grade crossing	Highway 41 at Yosemite Mountain/Fish Camp
6	24.	Miami Ranger Station	
6	26.	"Norbo"	East of Highway 41 and south of Road 417
6	27.	Picayune Indian settlement	Road 417, east of Highway 41
6	38.	Oakhurst ("Fresno Flats")	
6	42.	Zebra Mine	Near Kelshaw Corners, east of Highway 41 (private)
6	43.	Kelshaw Corners	Highway 41 at Road 207
6	44.	Ahwahnee Station	Along the old State Route to Yosemite

TABLE 6-2 (Continued)

POTENTIAL SITES OF LOCAL HISTORIC SIGNIFICANCE
(See Figure 5-1 of the Background Report for Locations)

Area	Site	Description	Location
6	47.	Wassama Indian Round House	Road 628, north of Highway 49
6	51.	Mining areas near Oakhurst	South of Highway 49 and west of Highway 41
6	52.	Nipinnawasee	North of Oakhurst
7	5.	Hogue Ranch Log House	1860 Mammoth Road, east of North Fork
7	37.	Kerckhoff Lake	San Joaquin River, south of North Fork
7	39.	Redinger Lake	San Joaquin River, southeast of North Fork
7	40.	Exact center of the State of California	Southeast of North Fork, along Highway 41.
7	56.	Sierra Mono Museum	Southeast corner of Road 274 and Road 225
8	1.	Big Trees, Nelder Grove	East of Highway 41, in the Sugar Pine area
8	2.	Devils Postpile National Monument and Red's Meadow	Highway 203, west of Mammoth Lakes and Hwy 395
8	3.	The Granite Stairway	Three miles southwest of Devil's Postpile
8	30.	Sugar Pine Lumber Mill	East of Highway 41, at Sugarpine
8	33.	Strawberry Tungsten Mine	1½ miles northwest of Clover Meadow Ranger Station
8	34.	Mammoth Pool	
8	46.	Yosemite National Park	Northeastern Madera County
8	48.	77 Corral	Corral Meadow, 6 miles southwest of Devil's Postpile
8	50.	Sheep Crossing	8½ miles southwest of Devil's Postpile
8	53.	Chetwood Cabin	Chetwood Creek, 8½ miles SW of Devil's Postpile
8	54.	Globe Rock	9½ miles north of Shuteye Peak
	9.	Indian Petroglyphs	Various locations along the San Joaquin River
Areas 1 = West/Agriculture 2 = Chowchilla/Fairmead 3 = Madera 4 = Raymond/Central			5 = South 41 Corridor 6 = North 41 Corridor 7 = North Fork/Millerton 8 = East/National Forest
Source: Madera County Planning Department, 1993			

The following paragraphs summarize Madera County's known cultural resources according to the eight geographic analysis areas.

West/Agriculture (Area 1)

There are no recorded archaeological resources of major significance in the western part of the county, although Indian Petroglyphs may be found along the San Joaquin River, which runs along the southern border of the area.

Chowchilla/Fairmead (Area 2)

In May 1993, near the community of Fairmead, approximately 2,000 bone parts from nearly a dozen species, including Columbian mammoths, were unearthed during excavation for an expansion of the Fairmead

landfill. Preliminary estimates suggest that the artifacts may be as much as 500,000 years old. The site is significant locally as well as nationally, as there are very few sites of this type and period in the western United States. The opportunity for future study of this site is currently unclear; funding issues related to continued study or possible relocation of the landfill, limit the County's ability to pursue such options.

Madera (Area 3)

The Madera area contains no known sites of archaeological significance.

Raymond/Central (Area 4)

In terms of archaeological resources, the Raymond/Central area has been the most intensively studied area of Madera County, and there has been at least one significant prehistoric archaeological find in the area. In 1864, the remains of a prehistoric animal were uncovered along the banks of the Fresno River, above what is now Hidden Dam/Hensley Lake. The dissected skeletal remains of what became known as the Bailey Mastodon were placed on public display for a time, and ultimately disposed of in the San Joaquin River. In addition, numerous habitation sites and bedrock mortars were discovered in a very concentrated area near Eastman Lake along the Chowchilla River, suggesting long and/or intensive occupation of the area. Subsequent to these discoveries, several more sites have been excavated.

South and North 41 Corridor (Areas 5 and 6)

Neither the North nor South 41 Corridor areas have recorded archaeological resources of major significance.

North Fork/Millerton (Area 7)

No archaeological resources of major significance are known to exist in the North Fork/Millerton area of Madera County.

East/National Forest (Area 8)

The most significant prehistoric resource in the East/National Forest area is Devil's Postpile National Monument, which is located in the Inyo National Forest. The resources in the area date back approximately one million years and consist of extraordinary lava formations created over thousands of years by the processes of volcanic eruption and glacial movement.

METHODOLOGY

This section describes the assumptions and thresholds of significance established to assess impacts resulting from development expected to occur by year 2010 according to the *General Plan*. The analysis was conducted qualitatively, by considering known and anticipated cultural resources and locations described in the *Background Report* in relationship to the areas designated for development on the *Land Use Diagram*.

Assumptions

1. Except for areas of extremely rugged terrain and no water, prehistoric archaeological sites can be expected throughout the county. Most archaeological sites have, however, been found on gentle to moderately-sloping sites below 1,500 feet within 500 feet of surface water sources. New development in these areas may be expected to have a greater impact on undiscovered cultural resources.

2. The number of cultural resources considered historic (greater than 45 years old under guidelines published by the State Office of Historic Preservation and policies stated in the *Policy Document*) will be constantly increasing throughout the county as existing structures age.
3. Madera County probably contains many unidentified properties that may be eligible for inclusion in the California Register of Historic places.
4. Certain development projects to be approved under the *General Plan* are expected to include federal funding or other federal involvement which would require project-level compliance with Section 106 of the National Historic Preservation Act.

Thresholds of Significance

Impact significance criteria are based on the *CEQA Guidelines* (Appendix G). Impacts are considered significant and adverse if the General Plan would do any of the following:

- Disrupt or adversely affect a prehistoric or historic archeological site determined to be an "important archeological resource" as defined by Appendix K of the *CEQA Guidelines*;
- Disrupt or adversely affect a property of historic or cultural significance to a community or ethnic or social group;
- Disrupt or adversely affect a paleontological site; or
- Disrupt or adversely affect a property that may eligible for inclusion in the California Register of Historic Places.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

As indicated above, most identified archeological sites in Madera County have been found on gentle to moderately sloping sites below 1,500 feet within 500 feet of surface water sources. The *General Plan* designates land for substantial new development in areas with these characteristics, specifically along Highway 41. Loss or damage to prehistoric or historic archeological sites or paleontological resource sites could, therefore, result from development facilitated by the *General Plan*. Such loss or damage would be considered a significant impact.

West/Agriculture

Since this area has no record of significant archaeological and very few historical resources, and because the *Land Use Diagram* designates most of the area for agricultural uses, the risk of adversely affecting important cultural resources is very low.

Chowchilla/Fairmead

Because of the recently discovered evidence of significant paleontological resources and because a substantial amount of land in the area is designated for development, there is the potential for disturbance of valuable cultural resources. Most of this potential, however, lies within Chowchilla, where the bulk of new urban development is expected to occur.

Madera

While the Madera area contains no known sites of archaeological significance, its physical setting (i.e., low elevation and proximity to surface water) is conducive to the presence of undiscovered resources. While most of the development in this area will be approved under the jurisdiction of the City of Madera, some County-approved development could affect such resources, particularly in the State Center Community College area, where substantial population growth is anticipated.

Raymond/Central

Based on historical experience, future development in the Raymond/Central area could be located in areas with undiscovered archaeological resources. Given the type of development anticipated in the area (i.e., rural residential in existing subdivisions), the risk of upsetting important resources is, however, low.

South and North 41 Corridor

While neither the North or South 41 Corridor areas have any recorded evidence of archaeological resources of major significance, the areas are designated for a substantial amount of development. As a result of this high level of expected development, the some potential for disturbance of undiscovered resources is substantial.

North Fork/Millerton

Neither evidence of archaeological resources of major significance nor the level and type of development anticipated in the North Fork/Millerton area indicate a substantial likelihood of future activity in the area disturbing valuable resources.

East/National Forest

Because most of the East/National Forest area is protected from the type of development that would disturb important cultural resources, the potential for such disturbance is very low.

GENERAL PLAN POLICY RESPONSE

The *Policy Document* includes several policies and programs that are intended to protect Madera County's cultural resources by mitigating the potential impacts of new development in areas containing important archaeological, historic, or paleontological resources. The following policies and programs address the potential implications of the *Land Use Diagram* on cultural resources.

Scenic Routes Policies

1.1.2. The County shall encourage the provision of public access to significant natural and cultural resources and scenic vistas through scenic routes, scenic highways, and scenic byways.

Historical and Cultural Resources Policies

4.D.1. The County shall solicit the views of the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

- 4.D.2. *The County shall coordinate with the cities and advisory councils in the county to promote the preservation and maintenance of Madera County's paleontological, archaeological, and historical resources.*
- 4.D.3. *The County shall require that discretionary development projects identify and protect from damage, destruction, and abuse, important historical, archaeological, paleontological, and cultural sites and their contributing environment.*
- 4.D.4. *Within the County's power, the County shall maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts. If significant archaeological and cultural resources are open to the public, the County shall control public access to prevent damage or vandalism.*
- 4.D.5. *The County shall provide for the placement of historical markers or signs on adjacent county roadways and major thoroughfares to attract and inform visitors of important historic resource sites.*
- 4.D.6. *The County shall encourage the preservation of the original architectural character of significant historic structures and districts. To this end, the County shall use the State Historic Building Code.*
- 4.D.7. *Use of existing legislation and propose local legislation for the identification and protection of cultural resources and their contributing environment.*
- 4.D.8. *The County shall support the registration of cultural resources in appropriate landmark designations (i.e., National Register of Historic Places, California Historical Landmarks, Points of Historical Interest, or Local Landmark). Assistance to private citizens seeking these designations for their property.*

Programs

- 4.4. *The County shall prepare, adopt, and implement procedures for review and approval of all County-permitted projects involving ground disturbance and all building and/or demolition permits that will affect buildings, structures, or objects 45 years of age or older.*
- 4.5. *The County shall develop preservation incentive programs for owners of important cultural and paleontological resources, using such mechanisms as the Mills Act, the Historic Preservation Easement program, the Certified Local Government program, and the Heritage Tourism program.*
- 4.6. *The County shall appoint a County Landmarks Commission to establish archival standards, prepare an inventory of all historic, cultural, and archaeological resources in the county, and promote their preservation.*
- 4.7. *The County shall adopt a historic district overlay zone to apply to areas containing significant historic structures.*

Open Space for the Preservation of Natural Resources Policies

- 5.H.5. *The County shall require that significant natural, open space, and cultural resources be identified in advance of development and incorporated into site-specific development project design.*

Programs

- 5.8. *The County will review and revise the planned zoning districts of the Zoning Ordinance to add provisions for the protection of significant natural, open space, and cultural resources.*

These policies and programs promote the identification and preservation of cultural resources, including requiring new development projects to identify and to be designed to protect important cultural resources. Policies also promote the use of acquisition programs to preserve significant cultural resources.

IMPACTS

The cumulative effect of increased development, and thus human population and associated activity, could result in occasional accidental disruption and adverse effect to unidentified important sites, in spite of County's best efforts, as expressed in the above-listed policies and programs. The cumulative impact of development permitted under the *General Plan* is, therefore, unavoidable. This impact is considered potentially significant.

MITIGATION MEASURES

No feasible mitigation measures beyond the policies and programs included in the *Policy Document* are available that would reduce the possibility of occasional accidental disruption of important archaeological, historic, or paleontological sites to a less-than-significant level.

CHAPTER 7

AGRICULTURAL AND NATURAL RESOURCES

This chapter assesses the potential impacts of development under the *General Plan* on agricultural and natural resources. The issues addressed in this chapter are agricultural resources, water resources, forest resources, mineral resources, vegetation and wildlife resources, and air quality.

7.1 AGRICULTURAL RESOURCES

This section describes the impacts on county agricultural resources associated with development designated by the *Land Use Diagram* projected by 2010. Specifically, this section describes how physical development at the intensities indicated by the *Land Use Diagram* would result in conversion of farmland and associated reduction in overall agricultural production.

ENVIRONMENTAL SETTING

Chapter 6 of the *Background Report* describes the agricultural resource setting in Madera County, including a discussion of soils and agricultural lands. For the purposes of analyzing the impacts of the *General Plan*, this section uses the California Department of Conservation's (CDC) Important Farmland Inventory classification system. This program uses soil and land use information to prepare and update important farmlands maps and to monitor the conversion of agricultural land.

The important farmland mapping program classifies five categories of farmlands: Prime Farmlands, Farmlands of Statewide Importance, Unique Farmlands, Farmlands of Local Importance, and Grazing Lands. CDC defines these categories as follows:

1. **Prime Farmland** has the best combination of physical and chemical features able to sustain long term production of agricultural crops. The land must be cropped and be supported by a developed irrigation water supply that is dependable and of adequate quality during the growing season. Land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date.
2. **Farmland of Statewide Importance** is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. These lands have the same reliable source of adequate quality irrigation water available during the growing season. Land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date.
3. **Unique Farmlands** are lands of lesser quality soils used for the production of the State's leading agricultural crops. These lands are usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones of California.
4. **Farmlands of Local Importance** are lands which are of importance to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee. In Madera County, these are lands that are presently under cultivation for small grain crops, but are not irrigated. They are also lands that are currently irrigated pasture, but have the potential to be cultivated for row/field crop use.

5. **Grazing Land** is that on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit is 40 acres.

In addition to these five farmland classifications, CDC identifies three classes of non-farmland: Urban Built-Up Land, Other Land, and Water Area.

In 1990, CDC inventoried and mapped Madera County land lying west of the Sierra National Forest boundaries. Figure 6-4 of the *Background Report* shows a generalized distribution of important farmland in Madera County as classified by CDC in 1990. Some smaller areas were too detailed to show, so Figure 6-4 combines some categories. For more detailed information, refer to the Important Farmland Map published by CDC.

As shown in Figure 6-4 of the *Background Report*, most of the land west of the Madera Canal is classified as Unique Farmland, Prime Farmland, and Farmland of Statewide Importance. Grazing land is also located in the western central part of the county. The mapped area to the east of the Madera Canal is almost solely Grazing Land. Table 7-1 shows the total acreage in each important farmland category, as well as the amount of land in non-farmland categories.

TABLE 7-1

TOTAL ACREAGE INVENTORIED IN IMPORTANT FARMLAND INVENTORY*
Madera County
1990

	Acreage	% of Total
Farmland		
Prime Farmland	103,799	12.0%
Farmland of Statewide Importance	86,397	10.0%
Unique Farmland	156,347	18.1%
Farmland of Local Importance	39,542	4.6%
Subtotal, Non-Grazing	386,085	44.8%
Grazing Land	404,199	46.9%
Total Farmland	790,284	91.7%
Non-Farmland		
Urban Built-Up Land	19,840	2.3%
Other Land	45,524	5.3%
Water Area	5,785	8.3%
Total Land Inventoried	861,433	100.0%

*Only land west of Sierra National Forest boundary was inventoried

Source: California Department of Conservation, 1992

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess impacts to agricultural resources that would be expected to by 2010. Impacts were assessed quantitatively based on information contained in the *Background Report* and the *Land Use Diagram*. Impacts were assessed for the direct conversion of farmland associated with development by geographic analysis area expected to occur by 2010. The amount and location of development anticipated by 2010 is based on the designations of the *Land Use Diagram* and growth projections and location information as described in Chapter 2.

Assumptions

1. No conversion of farmland was considered within corporate city limits or approved developments which had already received entitlements as of 1990.

2. Land designated Agriculture Exclusive (AE), Agriculture (A), and Open Space (OS) was assumed to be viable for future agricultural operations, consistent with the classifications of the Important Farmland Inventory.
3. Land projected for Agricultural Residential (AR) development by 2010 was not considered viable for commercial farming for purposes of this analysis.
4. Land with non-agricultural designations currently used for agriculture was considered available as future agricultural land if development in these areas is not projected by 2010.
5. The amount of farmland that would be converted within new growth areas is based on direct conversion to urban land uses and indirect conversion as a result of creating small nonviable farming units through the development of infrastructure, urban/agricultural land use conflicts, and non-agricultural designation. As a result, all agricultural land within the State Center Community College and Gunner Ranch West new growth areas is assumed to be converted as of 2010 although they are not anticipated to be fully built out by that date. Because of the size of the area, it is assumed that some agricultural operations can continue within the Rio Mesa new growth area in 2010 despite assumed development in this area.

Thresholds of Significance

For the purposes of this EIR, impacts to agricultural resources are considered significant if adoption or implementation of the plan would:

- Convert Prime Farmland or Land of Statewide Importance (as designated by the California Department of Conservation) to non-agricultural land uses by 2010;
- Substantially reduce the total amount of agricultural land in the county

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

Loss of Farmland

Table 7-2 shows the acreage of agricultural land that would be converted by 2010 through development under the *Land Use Diagram*. The table also indicates the total land designated for non-agricultural uses included in the Important Farmland Inventory that would be directly converted at full buildout of the *Land Use Diagram*.

TABLE 7-2

**ESTIMATED ACRES OF FARMLAND DIRECTLY AND POTENTIALLY CONVERTED
2010 and Buildout**

Geographic Analysis Area	Converted as of 2010			Directly Converted at Buildout		
	Prime & Statewide	Unique & Local	Grazing	Prime & Statewide	Unique & Local	Grazing
West/Agriculture	40	0	0	70	300	100
Chowchilla/Fairmead						
Incorporated	0	0	0	0	0	0
Unincorporated	60	300	0	2,000	900	0
Total Chowchilla/Fairmead	60	300	0	2,000	900	0
Madera						
Madera General Plan Area	4,000	400	0	4,000	400	0
State Center Comm. College Area	1,500	100	0	1,500	100	0
Remaining unincorporated	200	50	0	1,400	2,200	0
Total Madera Area	5,200	500	0	6,900	2,700	0
Raymond/Central	0	0	100	0	0	4,000
South 41 Corridor						
Rio Mesa Area	1,000	800	6,000	2,042	1,906	10,558
Gunner Ranch West Area	319	791	0	319	791	0
Remaining unincorporated	50	300	0	80	600	0
Total South 41 Corridor Area	1,369	1,891	6,000	2,441	3,297	10,558
North 41 Corridor	0	0	18,000	0	0	40,000
North Fork/Millerton	0	0	100	0	0	300
East/National Forest	n/a	n/a	n/a	n/a	n/a	n/a
Total	7,169	2,741	24,200	11,411	7,197	54,958

West/Agriculture Area

The West/Agriculture area includes much of the county's intensive agricultural uses. The *Land Use Diagram* designates this area primarily for agricultural uses, mostly with an Agriculture Exclusive (AE) designation which permits minimum parcel sizes of 36 acres. This designation is more restrictive than current General Plan designations and in many cases, more restrictive than the underlying zoning. The only land designated for urban development in the West/Agriculture area is in existing, small rural communities and some small commercial areas. Expansion of existing communities projected by 2010 would cumulatively result in the conversion of 40 acres of Prime Farmland and Farmland of Statewide Importance. The *Land Use Diagram* also designates 400 acres of commercial development in this area; this is not anticipated to develop by 2010, however.

Chowchilla/Fairmead Area

The conversion of agricultural land in this area is limited to areas outside Chowchilla's 1993 city limits. Approximately 60 acres of Prime Farmland and Farmland of Statewide Importance and 300 acres of Unique Farmland and Farmland of Local Importance are assumed to convert to urban uses by 2010. Of this total, 150 acres of Unique Farmland and 20 acres of Prime Farmland are assumed to be converted with the expansion of the Central California Women's Facility (This facility is currently under construction). The remaining farmland is assumed to convert through industrial development south of Chowchilla, rural residential development around Chowchilla and Fairmead, and limited expansion of the Fairmead community.

Madera Area

Approximately 5,200 acres of Prime Farmland and Farmland of Statewide Importance and 500 acres of Unique Farmland and Farmland of Local Importance are assumed to be converted by 2010 in the Madera area. Most of this conversion is projected to occur within the City of Madera General Plan Area. The State Center Community College new growth area is located primarily on Prime Farmland. Although the area is not projected to build out by 2010, designation of this area for non-agricultural uses and the development of roads and other infrastructure is presumed to make commercial agricultural production in this area nonviable by 2010.

Raymond/Central Area

Development in the Raymond/Central area could result in limited reductions in grazing land. It is assumed that 100 acres of Grazing Land would be converted to urban uses by 2010; a total of 4,000 acres of Grazing Land are designated for non-agricultural uses under the *Land Use Diagram*, but it is assumed that most of this will not develop by 2010 because of its location.

South 41 Corridor

Development in the South 41 Corridor area will result in the loss of nearly 1,400 acres of Prime Farmland and Farmland of Statewide Importance, 1,900 acres of Unique Farmland and Farmland of Local Importance, and 6,000 acres of Grazing Land. Most of this conversion will occur in the Rio Mesa new growth area. While it is assumed that development in this area by 2010 will be less than a quarter of its total holding capacity, the introduction of urban development into this area and development of infrastructure will limit the viability of farming operations in this area. It is assumed that over half of the agricultural lands in this area will be directly or indirectly converted to non-agricultural uses by 2010. Development within the Gunner Ranch West new growth area is assumed to directly or indirectly convert all agricultural lands in the new growth area, although the Gunner Ranch West area is not expected to fully build out by 2010. Expansion of residential uses outside these two new growth areas is expected to result in the conversion of 250 acres of agricultural land.

North 41 Corridor

Development in the North 41 Corridor would result in the loss of approximately 18,000 acres of Grazing Land by 2010, through the expansion of rural development in the foothills and mountains. Approximately 40,000 acres of Grazing Land in this area are designated for non-agricultural uses, but it is not anticipated that the entire area will develop by 2010.

North Fork/Millerton

Most of the development in this area is proposed for areas not mapped in the Important Farmland Inventory. Approximately 100 acres of grazing land are assumed to be converted by 2010.

East/National Forest

This area is not included in the Important Farmland Inventory.

Total County

The conversion of 34,110 acres of farmland by 2010 represents an estimated four percent of the total farmland of all types in the county (see Table 8-3). This direct conversion represents approximately four percent of the Prime Farmland and Farmland of Statewide Importance in the county, one percent of the Unique and Locally-Important Farmland in the county, and six percent of the Grazing Land.

TABLE 7-3

**PROPORTION OF FARMLAND TYPES DIRECTLY AND POTENTIALLY CONVERTED
2010**

Farmland Type	Total Countywide (Acres)	Total Converted by 2010	
		Acres	Percentage of Total
Prime and Statewide	190,196	7,169	3.8%
Unique and Local	195,889	2,741	1.4%
Grazing	404,199	24,200	6.0%
Total	790,284	34,110	4.3%

Land Use Conflicts

As development occurs through 2010, land use conflicts between residential and commercial uses and agricultural operations could increase in the Chowchilla/Fairmead, Madera, and South 41 Corridor areas. Adverse effects on new residents and business from nearby farming could include increased nuisances such as noise, odors, and dust, and health and safety concerns such as pesticide exposure and hazardous situations related to farm equipment.

Urban and suburban development also create difficulty in farming operations. Nearby urban and suburban development make pesticide application and burning activities more difficult because of the potential effects on nearby residents and businesses. Farm production costs could increase because of increased land costs, more difficult operating procedures near urban areas, possible theft and vandalism of farming equipment, crop pilferage, and personal injury liability associated with farm trespass violations.

GENERAL PLAN POLICY RESPONSE

The following policies and programs address impacts on agricultural lands associated with development under the *Land Use Diagram*.

Agricultural Land Use Policies

- 5.A.1. *The County shall maintain agriculturally-designated areas for agricultural uses and direct urban uses to designated new growth areas, existing communities, and/or cities.*
- 5.A.2. *The County shall discourage the conversion of prime agricultural land to urban uses unless an immediate and clear need can be demonstrated that indicates a lack of land for non-agricultural uses.*
- 5.A.3. *The County shall seek to ensure that new development and public works projects do not encourage further expansion of urban uses into designated agricultural areas.*
- 5.A.4. *The County will maintain large-parcel agricultural zoning and prohibit the subdivision of agricultural lands into parcels smaller than permitted by the zoning.*
- 5.A.5. *The County shall allow the conversion of existing agricultural land to urban uses only within designated urban and rural residential areas, new growth areas, and within city spheres of influence where designated for urban development on the General Plan Land Use Diagram.*
- 5.A.6. *The County shall encourage continued and, where possible, increased agricultural activities on lands designated for agricultural uses.*
- 5.A.7. *The County shall encourage agricultural soil conservation practices such as crop rotation, cover crops, and coordinated discing times to reduce wind erosion. The County shall also encourage farmers and ranchers to develop farm or ranch plans with the appropriate U.S. Soil Conservation Service district office.*
- 5.A.8. *The County shall encourage land improvement programs to increase soil productivity in those agriculturally-designated areas containing lesser quality soils.*
- 5.A.9. *The County shall encourage infill development in urban areas as an alternative to expanding urban boundaries into agriculturally-designated areas.*
- 5.A.10. *The County shall support merging or reversion to acreage of substandard lots in "paper subdivisions" in agriculturally-designated areas under the same ownership and not being used as separate parcels.*
- 5.A.11. *The County shall facilitate agricultural production by allowing agricultural service uses (i.e., commercial and industrial uses) to locate in agriculturally-designated areas if they relate to the primary agricultural activity in the area. The County shall use the following guidelines to analyze the suitability of a proposed agricultural service use:*
 - a. *The use will not adversely affect agricultural production in the area;*
 - b. *The use supports local agricultural production; and*

c. *It is compatible with existing agricultural activities and residential uses in the area.*

5.A.12. *The County shall actively encourage enrollments of agricultural lands in its Williamson Act program, particularly on the edge of new growth areas.*

Land Use Conflict Policies

5.A.13. *The County shall require development within or adjacent to designated agricultural areas to incorporate design, construction, and maintenance techniques that protect agriculture and minimize conflicts with adjacent agricultural uses.*

5.A.14. *The County shall continue to enforce the provisions of its Right-to-Farm Ordinance and of the existing state nuisance law.*

5.A.15. *The County shall encourage educational programs to inform Madera County residents of the importance of protecting farmland.*

Economic Viability of Agriculture Policies

5.A.16. *The County shall support opportunities to promote and market agricultural products grown or processed within Madera County (such as farmers' markets) as a part of the economic development activities of local agencies.*

5.A.17. *The County shall permit a wide variety of promotional and marketing activities for county-grown products in all agricultural zone districts.*

5.A.18. *The County shall permit on-farm product handling and selling. The County shall permit stands for the sale of agricultural products in any agricultural land use designation to promote and market those agricultural products grown or processed in Madera County. Secondary and incidental sales of agricultural products grown elsewhere may be permitted subject to appropriate approvals.*

5.A.19. *The County shall ensure that land use regulations do not arbitrarily restrict potential agricultural-related enterprises which could provide supplemental sources of income for farm operators.*

These policies provide for protection of agriculturally-designated areas from conversion to non-agricultural uses and promote large parcel sizes to maintain agricultural viability, agricultural support uses, and other agricultural protection methods. These policies provide for protection of areas designated for agriculture, encourage continued and increased agricultural activities on appropriate areas, and include measures to reduce conflicts between agricultural uses and adjacent land uses. Policies also include promotion of agricultural products sold in Madera County.

IMPACTS

West/Agriculture

Development in this area would result in the conversion of 40 acres of Prime Farmland. The designation of agricultural lands in this area with more restrictive minimum parcel sizes and *General Plan* policies

to encourage agricultural production would offset this loss of agricultural land. The impact of development in this area is therefore, considered less-than-significant.

Chowchilla/Fairmead

Development in the Chowchilla/Fairmead area would result in the loss of 360 acres of agricultural land by 2010. Of this total, 160 acres is attributable to the expansion of the Central California Women's Facility. This project is already under construction. The *Land Use Diagram* redesignated this area from Agriculture to Public Institution in recognition of the prison site's approved use; the loss of agricultural land is not, however, an impact of the *General Plan* as it would take place with or without adoption of the plan.

The remaining farmland conversion is attributable to unincorporated residential and industrial development. While the 50 acres of Prime Farmland/Farmland of Statewide Importance and 160 acres of Unique Farmland/Farmland of Local Importance are a small fraction of the county's farmland, this loss will contribute to the cumulative loss of farmland in the county and the San Joaquin Valley, and is therefore considered a potentially significant impact.

Madera Area

Development in this area will result in the greatest loss of Prime Farmland/Farmland of Statewide Importance in the county by 2010. Development in the City of Madera's General Plan Area is estimated to result in the loss of 4,000 acres of Prime Farmland/Farmland of Statewide Importance and another 400 acres of Unique Farmland/Farmland of Local Importance. The *Land Use Diagram* redesignated this area consistent with the City of Madera's adopted General Plan; the loss of agricultural land is not, however, an impact of the *Madera County General Plan* as it would take place with or without adoption of the County plan.

Most of the remaining conversion of agricultural land is projected to occur in the State Center Community College new growth area. This would result in the conversion of approximately 1,600 acres of important farmland, most of which is Prime Farmland or Farmland of Statewide Importance. Development in other unincorporated areas within the Madera area would also result in the loss of another 250 acres of agricultural land. While this is only a small fraction of the county's farmland, this loss will contribute to the cumulative loss of farmland in the county and the San Joaquin Valley, and is therefore considered a potentially significant impact.

Raymond/Central Area

Development in this area would result in the conversion of 100 acres of Grazing Land by 2010. The designation of agricultural lands in this area with more restrictive minimum parcel sizes and *General Plan* policies to encourage agricultural uses would offset this loss of grazing land. The impact of development in this area is therefore, considered less-than-significant.

South 41 Corridor Area

Development in the South 41 Corridor Area would result in the loss of 1,400 acres of Prime Farmland/Farmland of Statewide Importance, 1,900 acres of Unique Farmland/Farmland of Local Importance, and 6,000 acres of Grazing Land. Nearly all this conversion would occur within the Gunner Ranch West and Rio Mesa new growth areas. While some conversion would occur surrounding the

Madera Ranchos area, this farmland is essentially surrounded by urban-designated land, making it less viable for commercial operations. Development of new growth areas in agricultural areas would convert land almost exclusively used for agricultural operations. The loss of 1,000 acres of Prime Farmland/Farmland of Statewide Importance in the Rio Mesa new growth area and the loss of 319 acres of Prime Farmland/Farmland of Statewide Importance is considered a significant, adverse impact. The loss of 6,000 acres of Grazing Land in the Rio Mesa new growth area will also contribute to the cumulative loss of Grazing Land in the county and is therefore considered a potentially significant impact.

North 41 Corridor Area

Development in the North 41 Corridor Area is anticipated to result in the loss of 18,000 acres of grazing land by 2010. This represents five percent of the grazing land in the county. The loss of this proportion of the county's grazing land is considered a significant impact.

North Fork/Millerton

Development in the North Fork/Millerton area could result in the loss of 100 acres of grazing land by 2010. The designation of agricultural lands in this area with more restrictive minimum parcel sizes and *General Plan* policies to encourage agricultural uses would offset this loss of grazing land. The impact of development in this area is therefore, considered less-than-significant.

MITIGATION MEASURES

The direct and potential conversion of Prime Farmland/Farmland of Statewide Importance in the Chowchilla/Fairmead area, Madera area, and South 41 Corridor area is considered a significant adverse impact. There are no mitigation measures available to reduce this loss to a less-than-significant level.

The direct and potential conversion of Grazing Land in the South 41 Corridor and North 41 Corridor areas would contribute to significant reduction in the county's grazing land. This is considered a significant adverse impact, and no mitigation measures are available to reduce this loss to a less-than-significant level.

One method to reduce conversions of farmland is to increase development densities to accommodate the same population within a smaller area. On a widespread basis, this would mean a fundamental change in the plan and might not be feasible in some areas because of public facility and environmental constraints. This approach might be effective in selected areas, however, and could be considered as part of the planned revisions to area plans. As a mitigation, the following program could be added to the *General Plan Policy Document*.

The County shall consider the feasibility of increased densities in specific areas as part of its area plan updates in an effort to reduce the amount of agricultural land conversion.

Even with this mitigation measure, the impact of the *General Plan* on agricultural lands is a significant adverse impact.

IMPLICATIONS OF DEVELOPMENT BEYOND 2010

As shown in Table 7-2, the *Land Use Diagram* designates a total of 18,500 acres of Prime Farmland and Farmland of Statewide Importance for non-agricultural uses, along with 55,000 acres of grazing land. Development after 2010 will continue the conversion of agricultural land in Madera County.

7.2 WATER RESOURCES

This section describes the impacts on county water resources associated with development projected to occur under the *General Plan* at 2010. Specifically, this section focuses on how development at the intensities indicated by the *Land Use Diagram* could affect the quality of both surface and groundwater resources. Other water related issues, such as water supply and demand and storm drainage are discussed in Chapter 5 of this report. Flooding issues related to safety are discussed in Chapter 8.

ENVIRONMENTAL SETTING

Most of the water consumed for domestic purposes in the county is groundwater, as is half the water used for agricultural purposes. Surface water accounts for approximately half of the agricultural water supply in the county, and the community of Bass Lake relies on surface water.

Surface water in Madera County is typically of good quality for agricultural irrigation. Most sources of surface water in the county are generally described as good, although water quality could be affected by recreation overuse, timber harvesting, or other land uses.

As a rule, groundwater quality is considered inferior to that of surface waters. Aquifers can be contaminated by nitrates and other materials as a result of human activities. No systematic, countywide studies of groundwater quality have been conducted. Based on available information, however, it appears that the county currently has no significant groundwater quality problems. Most cases of water degradation in the county have been isolated incidents. There have also been isolated instances of wells contaminated with agricultural pesticides; these wells were promptly abandoned. In general, the groundwater quality situation in the valley is ideal; high clay content and other impervious sediments in the soils, combined with a low water table, make it difficult for contaminants to reach the groundwater supply.

Groundwater in the foothill and mountain areas is limited. The *Background Report* describes the characteristics of water quality in Madera County. The following paragraphs summarize information about the county's water resources by geographic analysis area.

West/Agriculture Area

The West/Agriculture area is bordered on the south and west by the San Joaquin River and on the north by the Chowchilla River. The area is underlain by the San Joaquin Groundwater Basin. Some groundwater samples in the far western part of the county have shown high levels of alkali, which is detrimental to agriculture. Groundwater in this area is used for agricultural irrigation. Agriculture in this area also relies on surface water supplies delivered by the two irrigation districts.

Chowchilla/Fairmead Area

The Chowchilla River borders the northern part of this geographic analysis area. The city of Chowchilla uses groundwater as its municipal water supply, with no significant reported problems. Unincorporated development in this area also relies on groundwater. Agricultural uses rely on surface water from the Chowchilla Irrigation District and individual wells.

Madera Area

The city of Madera uses groundwater as its municipal supply and has not experienced any significant problems with supply or quality. Accordingly, the City plans to use groundwater to serve future development. Unincorporated areas either rely on some individual wells or are linked to the City's water system. New development in the State Center Community College Area is proposed to hook up to the City's water and sewer systems. The Fresno River runs through center of Madera, but is not used for domestic water supply.

Raymond/Central Area

This area includes several lakes and reservoirs and is bordered on the south by the Fresno River. Eastman Lake's primary purpose is flood control and recreation, but it is also used by the Chowchilla Irrigation District for agricultural water supply. Hensley Lake serves the same purpose for the Madera Irrigation District. Also in the Raymond/Central area are the Madera Equalization reservoir and Lake Madera. Development in this area relies on groundwater. Agricultural activities are grazing and some crops.

South 41 Corridor Area

This area is bordered on the south by the San Joaquin River, and includes the proposed Gunner Ranch West and Rio Mesa new growth areas, along with the unincorporated Bonadelle and Madera Ranchos area, and agricultural uses. Agricultural uses in this area rely on both groundwater and surface water supplies, while the Bonadelle and Madera Ranchos area uses individual wells and septic systems.

North 41 Corridor Area

This area includes the Fresno River and numerous creeks and streams. Development in this area relies on groundwater, primarily through individual wells, and septic systems, with the exception of Bass Lake which provides surface water to development in the Bass Lake community. Wells in the North 41 Corridor area are approved only after testing of groundwater supply and quality.

North Fork/Millerton Area

The San Joaquin River runs along the southern border of this area, which also includes part of Lake Millerton. In addition to providing water to the Madera Irrigation District, Lake Millerton serves flood control and recreational uses. Development in this area relies on groundwater, primarily through individual wells.

East Area

This area includes numerous natural lakes, rivers, creeks, and streams. Uses in this area affecting water quality include timber harvesting and recreation.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess impacts to water quality that would be expected to occur by the year 2010 under the *General Plan*. The water quality analysis was conducted qualitatively by assessing anticipated effects of development or other land uses on existing water quality for both surface water and groundwater resources.

Assumptions

1. Adverse impacts to surface water quality are assumed to be directly related to increased surface water runoff from impervious surfaces which flush urban pollutants into surface waters. This is a long-term impact of urban development. An additional short-term impact is associated with runoff from construction activities. Impacts to surface water quality are expected to occur in areas that would support new urban and suburban development through 2010.
2. Adverse impacts to groundwater could occur as a result of an increase in the number of individual septic tank systems in the county. Adverse groundwater quality impacts would generally be associated with areas of the county where suburban and rural residential land uses are not served by centralized wastewater treatment facilities.
3. Adverse impacts to surface water quality associated with timber harvesting, agriculture, recreation uses, and other similar natural resource-oriented land use activities, although encouraged under the General Plan, are assumed not to substantially change from their present location or intensity through 2010. Timber harvesting, for example, may actually decline by the year 2010 in response to more strict requirements on federal lands. The water quality impacts of these natural resource-oriented land uses are, therefore, assumed to remain at present levels.
4. The State Water Resources Control Board and the Lahontan and Central Valley regional water quality control boards are expected to continue monitoring and regulatory efforts that will lead to increasingly stringent water quality standards, which will continue to be implemented and monitored at the municipal and project-specific permits.

Thresholds of Significance

For the purposes of this EIR, impacts are considered significant if the adoption or implementation of the plan would substantially reduce the quality of surface water or groundwater resources.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

Surface Water Quality

The quality of surface waters would be adversely affected in areas in which development densities are great enough to substantially increase the amount pollutants carried by stormwater runoff. Stormwater runoff from residential and commercial areas contains a variety of pollutants, including heavy metals, fecal coliform bacteria, pesticides, suspended solids, nutrients, and floatables which are flushed into surface waters, to be concentrated in sediments and tissues of aquatic organisms. Surface water quality

is also affected by sediments in runoff from construction sites and other land disturbing activities including agriculture, timber harvesting, and recreation activities such as off-road vehicle use.

Substantial additional urban and suburban development and potential reductions in surface water quality are expected to occur in the Madera, South 41 Corridor, North 41 Corridor, and North Fork/Millerton areas, and in portions of the Chowchilla/Fairmead area. Mineral extraction along the San Joaquin River could also affect surface water quality in the river in the South 41 Corridor area.

Other land management activities that could affect surface water quality occur mostly in the eastern part of the county. These activities include recreation and timber harvesting. Although the *General Plan* encourages these activities, it does not propose policies or programs that would encourage these uses at levels substantially higher than at the present. Surface water quality associated with these activities in the eastern portion of the county is, therefore, not expected to be substantially reduced.

Groundwater Quality

Groundwater quality could be affected by expanding suburban and rural development into areas that are not served by centralized wastewater treatment systems. Rural residential development can support concentrations of livestock that are a source of nitrates in groundwater. In addition, agricultural and industrial land uses can discharge chemicals, nitrates, and pesticides that contaminate groundwater aquifers.

Areas in the county not served by centralized wastewater treatment systems include the Bonadelle Ranchos/Madera Ranchos areas of the South 41 Corridor area, and substantial areas of the North 41 Corridor area and North Fork/Millerton area. New growth areas are expected to be served by centralized wastewater treatment facilities, so development in these areas is not expected to substantially degrade water quality in groundwater aquifers. Suburban and rural development in the foothills and mountains that is dependent on septic tanks could, however, degrade local groundwater quality in shallow aquifers.

GENERAL PLAN POLICY RESPONSE

The *Policy Document* includes policies and implementation measures to address impacts to surface water and groundwater resources associated with development under the *Land Use Diagram*.

Surface Water Quality

New urban development could result in substantially reduced water quality in surface waters that receive runoff from these developments. The impacts to surface waters could be reduced by the following *General Plan* policies and programs.

Storm Drainage and Flood Control

- 3.E.1. *The County shall provide for expansion and development of storm drainage systems to meet the needs of existing and planned development.*
- 3.E.5. *The County shall encourage project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions.*

- 3.E.6. *Future drainage system discharges shall comply with applicable state and federal pollutant discharge requirements.*

Programs

- 3.6. *The County shall prepare and adopt ordinances and programs as necessary and appropriate to implement required actions under state and federal stormwater quality programs.*

Water Resources Policies

- 5.C.2 *The County shall minimize sedimentation and erosion through control of grading, cutting of trees, removal of vegetation, placement of roads and bridges, and use of off-road vehicles. The County shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.*
- 5.C.3 *The County shall require new development of facilities near rivers, creeks, reservoirs, or substantial aquifer recharge areas to mitigate any potential impacts of release of pollutants in flood waters, flowing river, stream, creek, or reservoir waters.*
- 5.C.4 *The County shall require feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities, and shall encourage the urban storm drainage systems and agricultural activities to use BMPs.*
- 5.C.5 *The County shall approve only wastewater disposal facilities that will not contaminate groundwater or surface water.*
- 5.C.8 *The County shall support the policies of the San Joaquin River Parkway Plan to protect the San Joaquin River as an aquatic habitat and a water source.*

Programs

- 5.1. *The County shall inform the public and prospective developers about those sections of the California Fish and Game Code that apply to diversion or obstruction of stream channels and pollution of waterways with detrimental material. This shall be done through distribution of educational materials with building permits and as a part of project review.*

These policies and programs provide that new storm drainage systems are designed in accordance with applicable standards, promote the improvement of the quality of urban and suburban runoff, and require new development projects that have significant effects of the quantity and quality of surface water runoff to address those impacts. Water resources policies provide for the protection of streams and creeks from incompatible development and protect streams from the adverse effects of construction activities and urban runoff.

Groundwater Quality

New urban development could result in substantial reduction in water quality of local groundwater resources by increasing the number of separate septic tank systems. The impacts to groundwater resources could be reduced by the following *General Plan* policies.

Wastewater Collection, Treatment, and Disposal

- 3.D.1. The County shall limit the expansion of urban communities to areas where community wastewater treatment systems can be provided. In areas with no public wastewater treatment systems, the County shall limit development to densities that can safely be developed with on-site systems.*
- 3.D.3. The County shall permit on-site sewage treatment and disposal on parcels where all current regulations can be met; where parcels have the area, soils, and other characteristics that permit such disposal facilities without threatening surface or groundwater quality or posing any other health hazards; and where community sewer service is not available and cannot be provided.*
- 3.D.4. The County shall require that the development, operation, and maintenance of on-site disposal systems complies with the requirements and standards of the County Department of Environmental Health.*

Water Resources Policies

- 5.C.1 The County shall protect preserve areas with prime percolation capabilities and minimize placement of potential sources of pollution in such areas.*
- 5.C.5 The County shall approve only wastewater disposal facilities that will not contaminate groundwater or surface water.*
- 5.C.7 The County shall protect groundwater resources from contamination and further overdraft by encouraging water conservation efforts and supporting the use of surface water for urban and agricultural uses wherever feasible.*

These policies limit the use of septic tank systems by requiring community wastewater treatment systems to serve expanded urban communities, allowing on-site sewage treatment and disposal only where all current regulations can be met and where parcels have characteristics that would permit such disposal facilities without threatening groundwater quality, and requiring on-site systems to meet and maintain all current requirements and standards.

IMPACTS

This section describes the impacts of the General Plan which are not mitigated through the *General Plan Policy Document*.

Surface Water Quality

There are no impacts of the *General Plan* which are not mitigated through the *Policy Document*. With implementation of *General Plan* policies and programs, reductions of surface water quality are not expected to be substantial. Impacts to surface water quality would, therefore, be less-than-significant.

Groundwater Quality

The *General Plan* includes policies and programs to reduce the impacts on groundwater quality from the use of septic systems from rural residential development in the foothills and mountains, within the Raymond/Central, North Fork/Millerton, and North 41 Corridor areas. Projected development in the

Raymond/Central area and North Fork/Millerton areas is moderate and, with implementation of *General Plan* policies, the impacts on groundwater quality are considered less-than-significant. Substantial new development is forecast for the North 41 Corridor area and, while the policies of the *General Plan* address water quality impacts on an individual development basis, the cumulative effects from all the septic systems in this area on groundwater quality is unknown. This impact is therefore, considered, potentially significant.

MITIGATION MEASURES

With the low densities of existing and proposed development in the North 41 Corridor area, it is not considered financially feasible to construct a wastewater collection and treatment system to serve all development in these areas. No other mitigation measures are available to address this impact.

IMPLICATIONS OF DEVELOPMENT BEYOND 2010

As described in Chapter 2, the *Land Use Diagram* designates considerably more land for rural residential development than is estimated to be developed by 2010, reflecting historically planned land uses in the existing General Plan. If continued development in the foothills and mountains beyond 2010 is largely reliant on septic systems, groundwater quality could be adversely affected.

7.3 FOREST RESOURCES

This section describes the impacts on commercial forest resources associated with development under the *Land Use Diagram* expected to occur by 2010. Specifically, this section describes how physical development at the intensities indicated by the *Land Use Diagram* would result in loss of timber production from private commercial forest land in the county.

ENVIRONMENTAL SETTING

Most of the timber production in the county takes place in the Sierra National Forest on land leased by timber operators from the U. S. Forest Service. Timber production in the Sierra National Forest is governed by federal regulation and the *Sierra National Forest Land and Resource Management Plan*, and is not subject to County regulation. Private commercial forest land in the county is located primarily in inholdings of the Sierra National Forest. Timber harvest plans are required for harvesting of timber for commercial purposes on parcels of three acres or larger, and must be approved by the California Department of Forestry and Fire Protection (CDF). A total of 13 timber harvest plans covering 1,689 acres of timberland have been approved in Madera County since 1990. Much of this commercial land is zoned TPZ (Timber Production Zone). Three of the geographic analysis areas contain land potentially suitable for timber production: East/National Forest, North Fork/Millerton, and North 41 Corridor areas. The *Background Report* describes the forest resources in Madera County.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess impacts to forest resources that would be expected to occur by 2010. Impacts were assessed on a qualitative basis by comparing areas of development as indicated by the *Land Use Diagram* with the location of TPZ-zoned lands and conifer forests in the county.

Assumptions

The following assumptions were used in determining impacts to forest resources in Madera County as a result of development under the General Plan. These assumptions outline how development is expected to affect commercial timberland.

1. Private commercial timber land is defined as those areas within the county that fall within a TPZ or have been mapped as conifer forest.
2. Urban, suburban and rural residential development immediately adjacent to commercial forest land could affect production of forest products as a result of incompatible land use between the urban and forest interface. Development adjacent to a TPZ or conifer forest could result in an indirect affect on timber production from those lands
3. For purposes of this analysis it is assumed that production of commercial forest products from national forest land would not be directly affected by development under the *General Plan*.

Thresholds of Significance

For the purposes of this EIR, impacts to forest resources are considered significant if adoption or implementation of the plan would substantially reduce the amount of private commercial timberland in the county or substantially impair the productivity of private commercial timberland.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

Direct Loss of Commercial Forest Land

The *Land Use Diagram* does not designate any TPZ land for incompatible uses. TPZ land is designated Agriculture Exclusive, which permits commercial timber harvesting. In only one area, the North Fork/Millerton area, is any potentially viable timberland designated for non-open space/agricultural uses. Development levels by 2010 could result in minimal loss of potentially viable private timberland, and could result in minimal conflicts between uses of timberland for production of commercial forest products and rural residential uses.

GENERAL PLAN POLICY RESPONSE

The following policies and programs address impacts to timberland and forestry resources associated with development under the *Land Use Diagram*.

Forest Resources Policies

- 5.B.a. *The County shall encourage the sustained productive use of forest land as a means of providing open space and conserving other natural resources.*
- 5.B.b. *The County shall discourage development that conflicts with timberland management.*
- 5.B.c. *The County shall work closely and coordinate with agencies involved in the regulation of timber harvest operations to ensure that County conservation goals are achieved.*
- 5.B.d. *The County shall encourage qualified landowners to enroll in the Timberland Production Zone (TPZ) program.*

5.B.e. *The County shall encourage and promote the productive use of wood waste generated in the county.*

5.B.f. *The County shall encourage and support conservation programs to reforest private timberlands.*

These policies encourage the sustained productive use of forest land and discourage development that conflicts with timberland management, and seek to minimize the environmental effects of timber production.

IMPACTS

Potential losses of production from commercial timber land and conflicts between production of commercial forest products and rural residential development would be reduced by the implementation of the *General Plan* policies and would be less-than-significant.

MITIGATION MEASURES

No mitigation beyond implementation of the policies and programs of the *Policy Document* is necessary.

7.4 MINERAL RESOURCES

This section describes the impacts on county mineral resources associated with the urban development and impacts associated with extraction of those mineral resources that would be expected to occur through 2010. Specifically, this section focuses on how development at the intensities indicated by the *Land Use Diagram* would affect the availability of mineral resources.

ENVIRONMENTAL SETTING

An extensive range of mineral resources are found throughout Madera County. Current mineral extraction operations in the county include aggregate (sand and gravel, and decomposed granite) stone, and granite.

The *Background Report* describes the location and extent of known and potential mineral extraction sites in Madera County. In addition, a Mineral Resource Zone (MRZ) has been established by the state Department of Conservation, Division of Mines and Geology in the southern part of the county along the San Joaquin River within the South 41 Corridor area, as shown in Figure 6-6 of the *Background Report*.

METHODOLOGY

This section describes the assumptions and threshold of significance used to assess impacts to mineral resources in the county. The mineral resources impact analysis is a qualitative assessment of the effects of existing and potential mineral extraction sites near existing and potential areas of new urban development. The location of new growth in the county was based on the *Land Use Diagram*, whereas the location of existing and potential resource extraction sites reflects information developed for the *Background Report*.

Assumptions

1. Significant deposits of minerals, identified as MRZ-2, are analyzed in the same manner as existing or potential mineral extraction sites.

2. The types of impacts associated with different types of mineral extraction activities were assumed to be generally the same, although the specific activities may differ and would need to be addressed as part of project-specific environmental review.
3. Mineral extraction is assumed to not normally result in a significant conflict with rural land uses in areas where the *Land Use Diagram* designates minimum parcel sizes of 18 acres or larger.

Thresholds of Significance

Impacts associated with mineral resource extraction are considered significant if development under the *General Plan* would:

- Result in substantial conflict between existing mineral extraction operations and new urban or suburban land uses;
- Result in substantial conflict between new mineral extraction operations and existing urban or suburban land uses; or
- Substantially reduce the availability of significant mineral deposits in the county.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

Conflict Between Existing Mineral Extraction and New Urban and Suburban Land Uses

Development under the *Land Use Diagram* to 2010 would result in the potential for urban and suburban growth adjacent to existing and potential mineral resource extraction sites.

Conflicts between existing mineral extraction sites and potential urban and suburban development could occur within the South 41 Corridor area, within the Rio Mesa and Gunner Ranch West new growth areas because of the proximity of potential urban or suburban development near these sites.

Potential Loss of Significant Mineral Resources

Development under the *Land Use Diagram* could result in the potential for urban development over known deposits of valuable minerals.

GENERAL PLAN POLICY RESPONSE

This section describes how General Plan policies would address impacts to existing and potential mineral extraction sites associated with new urban development and how General Plan policies would address impacts to existing and new urban development associated with new resource extraction sites.

Mineral Resources Policies

- 5.1.1 *The County shall require new mining operations to be designed to provide a buffer between existing or likely adjacent uses, minimize incompatibility with nearby uses, and adequately mitigate their environmental and aesthetic impacts. The buffer area shall be zoned Agricultural, Rural, Exclusive-20 Acre or -40 Acre (ARE-20 and ARE-40) .*

- 5.1.2 *The County shall discourage the development of incompatible land uses in areas that have been identified as having potentially significant mineral resources, except where the California Department of Mines and Geology agrees that economic or environmental considerations make mineral extraction infeasible.*
- 5.1.3 *The County shall discourage the development of any uses that would be incompatible with adjacent mining operations or would restrict future extraction of significant mineral resources.*
- 5.1.4 *The County shall require that new non-mining land uses adjacent to existing mining operations be designed to provide a buffer between the new development and the mining operations.*
- 5.1.5 *The County shall coordinate its mineral extraction policies and regulations with Fresno County, the City of Fresno, and Merced County. The County shall refer applications for mining operations in locations near or adjacent to a city or another county to the affected city or county for review and comment.*
- 5.1.6 *The County shall require that all mining operations prepare and implement mining plans and reclamation plans that mitigate environmental impacts and incorporate adequate security to guarantee proposed reclamation.*

These policies discourage the development of incompatible land uses in areas with significant mineral resources and require new non-mining development adjacent to existing mining operations to provide a buffer between the new development and the mining operations.

IMPACTS

With full implementation of *General Plan* policies and programs, urban and suburban development that could substantially conflict with existing and potential mineral extraction would be avoided.

MITIGATION

No further mitigation is required other than full implementation of *General Plan* policies.

7.5 VEGETATION AND WILDLIFE RESOURCES

This section describes the impacts on biological resources resulting from development under the *General Plan* by 2010. Specifically, this section focuses on the expected impacts on the county's biotic habitats and their native plants and animals. Other biological resource-related issues, such as land use and water quality, are addressed in other sections of this report.

ENVIRONMENTAL SETTING

The physical setting and varied climates of Madera County have a diversity of plants and animals occurring in numerous biotic habitats. These biological resources are described in some detail and mapped in the *Background Report* (Chapter 6, Figures 6-11 and 6-12). In order to better place the impact analysis of this section into context, these resources are described briefly below:

Biotic Habitats

Twenty-six biotic habitats have been identified within Madera County. Habitat names provided in *A Guide to Wildlife Habitats of California* (Mayer et al 1988) have been used for this discussion. The key characteristics of the main habitat groupings have been briefly summarized below:

Alkali Desert Scrub. Formerly extensive in western Madera County, this habitat has now been reduced to a number of discontinuous parcels in the vicinity of Avenue 7, Firebaugh Boulevard, and Road 9 at elevations of 150 to 200 feet National Geodetic Vertical Datum (NGVD). Alkali desert scrub provides habitat for a number of special status plants and animals including the San Joaquin kit fox and Fresno kangaroo rat.

Alpine Dwarf-scrub. Alpine dwarf scrub occurs above 10,000 feet in elevation. This habitat includes the alpine fell fields (rocky slopes) and snowbank margins. The only trees are wind-pruned western whitebark pines a few feet in height. Only a few wildlife species occur within this habitat.

Annual Grasslands and Pasture. Large areas of the western third of Madera county are used as pasture, much of which is irrigated. These lands support a mix of perennial grasses and forbs suitable for livestock. Annual grasslands occur primarily at 300 to 600 feet NGVD along the eastern edge of the San Joaquin Valley between the Madera Canal and a line formed by Eastman, Hensley, and Millerton Lakes. This grassland continues into the Sierra foothills, forming the understory of blue oak and blue oak-digger pine woodland. Annual grasslands support mostly non-native annual grasses and forbs, although native spring flowering forbs are also common. A variety of resident and migratory wildlife breed and/or forage in this habitat, including many raptors (eagles, hawks, vultures, and owls).

Chaparral Communities. Mixed chaparral is an association of various shrub species adapted to hot dry slopes at 2,000 to 3,000 feet in elevation. This habitat is intermixed with the blue oak-digger pine association on south-facing slopes above the town of Oakhurst. Typical species include chaparral whitethorn, mariposa manzanita, poison oak, flannel bush, and chamise. Montane chaparral, like the mixed chaparral of lower elevations, is dominated by shrubs of 1 to 10 feet in height. This plant association may occur as extensive stands of snow bush ceanothus, bush chinquapin, pinemat manzanita, and greenleaf manzanita at elevations of 5,000 to 9,000 feet. Both habitats provide cover and breeding habitat for a variety of migratory birds. They also can provide important foraging habitat for migratory mule deer.

Conifer Forest Communities. Seven conifer forest communities occur throughout the eastern half of Madera County above 3,000 feet NGVD. These include ponderosa pine, mixed conifer, white fir, red fir, lodgepole pine, and sub-alpine conifer. Conifer forest communities are important to both resident and migratory birds. Montane mammals found in this habitat include migratory mule deer, mountain lions, coyotes, and a variety of smaller mammals.

Cropland, Orchards, and Vineyards. These habitats are found primarily in the western third of Madera County below 400 feet NGVD. Principal crops include cotton, corn, and alfalfa, almonds, pistachios, nectarines, figs, apples, and table, wine and raisin grapes. Weedy non-native annual and biennial plants may also occur in irrigated and fallow fields and along roads. These habitats are generally of limited value to native terrestrial vertebrates, although some croplands may be seasonally important as foraging habitat.

Fresh Emergent Wetland. Limited areas of fresh emergent wetland can be found along the major rivers of the county and other low-lying wet habitats. Cattails and bulrush are plants common to this habitat. These wetlands provide critical habitat for a variety of waterbirds.

Lacustrine. Lakes in the form of reservoirs, stock ponds, and naturally occurring high elevation lakes are a minor habitat within Madera County. Berenda Reservoir and Eastman, Hensley, Bass and Millerton Lakes are all large reservoirs. Most reservoirs have been stocked with non-native game fish. They provide important wintering habitat for a variety of waterfowl.

Montane Hardwood Forest Communities. Steep and rocky south-facing slopes at elevations ranging from 3,500 to 6,000 feet in elevation often support extensive stands of montane hardwood forest. Principal tree species include canyon live oak, and at somewhat higher elevations, California black oak. In places, conifers such as ponderosa pine, incense cedar, and sugar pine are intermixed with the dominant hardwood species to form a montane hardwood conifer community. These habitats can be readily seen along the lower reaches of Lewis Creek below Corlieu Falls and south-facing slopes north of Bass Lake. Wildlife use of this habitat is similar to that of the mixed conifer forest.

Montane Riparian. Most montane creeks and rivers (i.e., Willow, Lewis, Chiquito, etc.) support a narrow band of riparian trees and shrubs. Cottonwoods, willows, aspen, western azaleas and mountain alders are common trees and shrubs associated with this habitat. This habitat functions as an important movement corridor for migratory wildlife, but also provides breeding and foraging habitat.

Northern Hardpan Vernal Pool. Northern hardpan vernal pools occur intermixed with non-native annual grasslands where the soils include an impermeable claypan layer below the surface. Although many of the vernal pools of Madera County have been converted to residential development, croplands, and vineyards and orchards, many remain in grasslands on either side of Highway 41, Highway 145, Road 400, the Daulton Road, etc. These pools support a unique flora and fauna, including several federally endangered species. A number of other plants and animals occurring in vernal pools have been proposed for listing as state and federally threatened or endangered. The pools also provide important wintering habitat for some waterbirds.

Oak Woodland Communities. Blue oak woodland occurs in the foothills of the Sierra Nevada between the elevations of 400 to 1,500 feet NGVD. Eastman, Hensley, and Millerton Lakes, and Raymond, Knowles and O'Neals are located within this habitat. Blue oaks are the dominant tree, but interior live oak, and California buckeye may also be found in this habitat. An association of blue oaks and digger pines occurs in the Sierra foothills upslope of the blue oak woodland at elevations ranging from 1,500 to 3,000 feet NGVD. Coarsegold, Oakhurst and North Fork are located within this association. Blue oaks, interior live oaks, valley oaks, and digger pines all occur here. Both habitats are important to many resident and migratory birds. Most mammals are resident, including mule deer and mountain lions. Migratory deer of the Oakhurst and San Joaquin Herds winter in the vicinity of Oakhurst and North Fork respectively, but summer at higher elevations.

Riverine. Aquatic habitat is associated with the San Joaquin, Fresno, and Chowchilla Rivers, and Coarsegold, Finegold, Miami, Lewis, Chiquito, and Granite Creeks (and others). These habitats usually occur in close association with riparian habitats in the county. Rivers provide habitat for native and non-native fishes, pond turtles, winter waterfowl, beavers, etc. This habitat is found in all geographic analysis areas.

Urban. Urban habitats of Madera County include the towns of Madera, Chowchilla, and Oakhurst. It also includes subdivisions of relatively small lots including Bonadelle Ranchos, and Madera Ranchos. The vegetation of this habitat is often composed of ornamental plants. A number of resident birds and mammals are non-native species. Urban areas provide limited habitat for native animals, particularly birds during spring and fall migration.

Valley Foothill Riparian. This habitat is associated with the bed, banks and floodplains of rivers and creeks. The best riparian habitat occurs along the San Joaquin River, although it can also be found along the Fresno and Chowchilla Rivers, Coarsegold Creek, Finegold Creek, Miami Creek, Lewis Creek, and others. The best of this habitat is structurally and floristically diverse. Used by numerous resident and migratory birds for breeding, foraging, and home range, dispersal, and migratory movements, riparian habitats have considerable ecological value.

Wet Meadow. Wet Meadows occur between 4,000 and 10,000 feet in elevation in eastern Madera County. These grassy meadows have saturated soils for at least a portion of each growing season. They may be bordered by mixed conifers, willows, and quaking aspens. Wet meadows provide cover, breeding and foraging habitat for a diversity of migratory birds. They also provide important fawning habitat for migratory mule deer.

TABLE 7-4

HABITATS FOUND IN GEOGRAPHIC ANALYSIS AREAS

Biotic Habitat	West/ Agriculture	Chowchilla /Fairmead	Madera	Raymond/ Central	South 41 Corridor	North 41 Corridor	North Fork/ Millerton	East/ National Forest
Alkali Desert Scrub	X							
Alpine Dwarf-scrub								X
Annual Grasslands and Pasture	X		X	X	X	X	X	
Chaparral Communities						X	X	X
Conifer Forest Communities						X	X	X
Cropland, Orchards, and Vineyards	X	X	X	X	X			
Fresh Emergent Wetland	X	X	X	X	X	X	X	X
Lacustrine				X		X	X	X
Montane Hardwood Forest Communities						X	X	X
Montane Riparian						X	X	X
Northern Hardpan Vernal Pool			X	X	X	X		
Oak Woodland Communities				X		X	X	
Riverine	X	X	X	X	X	X	X	X
Urban		X	X	X	X	X	X	

Valley Foothill Riparian	X	X	X	X	X	X	X	
Wet Meadow						X	X	X

Sensitive Biotic Resources

Some of the biotic resources occurring in Madera County are considered "sensitive." Continuing development within the county and other parts of the state have reduced the size and distribution of some habitats, and/or substantially reduced the populations of some plants and animals. Sensitive biotic resources have been identified below:

Special Status Plants and Animals. Several plant and animal species known to occur in Madera County have been given special status under federal or state endangered species legislation, or otherwise have been designated as "rare," "threatened," "endangered," or "species of special concern" by state resource agencies or professional organizations. Such species are collectively referred to as "species of special status." The special status species known to occur in Madera County have been identified in the *Background Report*, Table 6-5. Also provided are the listing status, preferred habitat(s), and known locations of occurrence in Madera County for each species.

Jurisdictional Waters. Drainage channels and their impoundments, naturally occurring lakes, and wetlands are considered to be "Waters of the United States". These waters are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) according to provisions of Section 404 of the *Clean Water Act*. The bed and bank of rivers and streams are also subject to the jurisdiction the California Department of Fish and Game (CDFG) under Sections 1601 and 1603 of the *California Fish and Game Code*. Development within rivers, creeks (including seasonal creeks), riparian habitats, vernal pools, seasonally wet alkaline desert scrub and grassland, fresh emergent wetlands, and montane meadows are subject to the permit requirements of the USACE. Development within rivers and streams require a Streambed Alteration Agreement from the CDFG.

Sensitive Biotic Habitats. Sensitive biotic habitats are those which once were common but are now of limited extent due to agricultural and urban development. These habitats may be especially rich in botanical and wildlife resources, or, support large numbers of special status plants and animals. Many kinds of wetland habitats are considered sensitive. Continued development of these habitats will substantially reduce the populations of plants and animals using them, and some cases, lead to their extirpation from Madera County. Sensitive biotic habitats of Madera County include the following:

- Alkali Desert Scrub
- Fresh Emergent Wetland
- Montane Riparian
- Northern Claypan Vernal Pool
- Oak Woodlands
- Riverine
- Valley Foothill Riparian
- Wet Meadow

Development within many of these habitats is regulated by the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game (see discussion under "Jurisdictional Waters" above).

Other Sensitive Biotic Resources. Other sensitive biotic resources occurring in Madera County could be affected by future development. These include the following:

- **Migratory Deer Herd.** The Oakhurst deer herd winters within the Oakhurst Basin and moves to higher elevations in eastern Madera County during the summer. Migratory deer require large contiguous tracts of winter range with abundant browse and unobstructed movement corridors between their winter and summer ranges. Rural residential development within the Oakhurst Basin has resulted in the loss of wintering habitat and the obstruction of movement corridors. This development, along with other factors, has resulted in the decline of the population of the Oakhurst deer herd by an estimated 80 percent since 1961.
- **Significant Natural Areas.** Eight significant natural areas have been identified by the California Department of Fish and Game under the Significant Natural Areas program. These areas, which may be privately or publicly owned, include sensitive habitats such as northern hardpan vernal pools and alkaline desert scrub, as well as habitat for sensitive species such as the orange lupine, Mariposa pussypaws, and the Paiute cutthroat trout. These are listed in Table 6-6 of the *Background Report*.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess impacts on the biological resources of Madera County resulting from development under the *General Plan* through 2010.

Assumptions

For the purposes of this analysis certain assumptions have been made about the kinds of future development expected to occur in Madera County and the effects of such growth on the county's biological resources. These assumptions are as follows:

1. Impacts to wildlife species are assumed to be directly correlated with the loss of the plant and aquatic communities that provide their primary habitat. The conversion of these communities to agricultural, urban and suburban development, therefore, will result in the loss of associated wildlife species.
2. The development of urban communities in new growth areas is assumed to result in the elimination of most aquatic habitats and naturally occurring vegetation, and the native wildlife occurring in them. These losses would result from site grading, road building, infrastructure installation, filling or other damage to wetlands, and direct wildlife loss or disturbance by construction activities and human habitation. Any remaining fragments of undeveloped habitat would be isolated from larger areas of contiguous habitat and would have substantially lower biological values than those prevailing before the development of new growth areas.
3. Development in suburban and rural residential areas is assumed to result in substantial loss of habitat values for some botanical and wildlife resources. The loss of these values would be associated with the removal of native vegetation, construction disturbances, the creation of permanent obstacles to animal movements, and the proximity of humans and their pets. The extent of lost habitat values will depend largely on minimum parcel sizes within a given area. As a rule, larger parcels will retain greater habitat values than smaller parcels. A large area of contiguous habitat divided into many parcels of 10 acres or less will result in substantially greater habitat loss, habitat fragmentation, disturbance to wildlife from humans and pets, etc. than if that habitat had been divided into a few parcels of 40 or more acres each. The division of biotic habitats into many small parcels is assumed

to have a particularly deleterious effect on wildlife requiring larger home ranges, such as deer and mountain lions.

4. The conversion of native habitats to agricultural uses is assumed to result in the elimination of most naturally occurring vegetation and wildlife. The loss of native vegetation and wildlife would be associated with land leveling, the loss of biodiversity resulting from the cultivation of monocultures, and the regular disturbance to the land resulting from plowing, discing, and harvesting.

Thresholds of Significance

The *CEQA Guidelines* provide guidance in evaluating project impacts and determining which will be significant. CEQA has defined "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." According to Appendix G of the *CEQA Guidelines*, a project's effects on biotic resources will be considered significant when the project will:

- (a) substantially affect a rare or endangered species of animal or plant or the habitat of the species;
- (b) interfere substantially with the movement of any resident or migratory fish and wildlife species;
- (c) substantially diminish habitat for wildlife or plants.

For the purposes of this EIR, a significant impact is assumed if adoption or implementation of the plan would result in any of the effects described above.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

This discussion looks at three major categories of development under the *Land Use Diagram*. The impacts are grouped into three categories of development:

- **Habitat Losses in New Growth Areas**

The three new growth areas (State Center Community College, Gunner Ranch West, and Rio Mesa) provide for urban development in areas currently used for agriculture and open space

- **Habitat Losses and/or Reduction of Habitat Values from Rural Development**

These provide for expansion of relatively low densities of development in rural areas, primarily in the foothill and mountain areas

- **Potential Habitat Quality Reduction Associated with Timber, Agriculture, Mining, and Recreation Uses**

These address implications related to non-urban development uses

Habitat Losses in New Growth Areas

Development by 2010 will result in the conversion of approximately 13,000 acres of open space to developed uses within three new designated growth areas. The State Center Community College area is assumed to include a new community college and residential, commercial, and industrial uses to be located on approximately 1,800 acres south of Madera in the Madera geographic analysis area. This

facility is proposed for construction on land between Highway 99 and the Atchison, Topeka, and Santa Fe railroad tracks north of Avenue 12. As proposed, the project will include classroom facilities, other ancillary buildings, parking areas, and athletic fields, along with approximately 2,500 new dwelling units.

Two other new growth areas (Gunner Ranch West and Rio Mesa), are located in the South 41 Corridor area, east and west of Highway 41, south of Highway 145, and to the north of the San Joaquin River. Proposed development will include a new freeway, hospital, and commercial, residential and light industrial development. The population of these areas is projected to be more than 14,000 people by the year 2010. Nearly 5,000 dwelling units are proposed to accommodate this population.

Biotic Habitats Affected. Development within all three new growth areas will convert approximately 13,000 acres of existing biotic habitats to developed uses. The areal extent of each habitat type to be affected is not known. Croplands, vineyards and orchards, habitats of marginal value to native plants and animals, make up a large portion of each new growth area. A number of naturally-occurring habitats of considerably greater value to native plants and animals will also be affected. Their proximity to one another increases both the diversity of wildlife species occurring in them and the populations of individual species they can support. The greatest loss of habitat is projected to occur in the Rio Mesa area because of its size and location. Habitats substantially affected by development of the new growth areas (principally the Rio Mesa new growth area) include the following:

- Annual Grassland. Much of the Rio Mesa new growth area is annual grassland providing breeding and foraging habitat for a variety of terrestrial vertebrates, several of which have been designated as special status species (see discussions under "Special Status Species" and "Sensitive Biotic Habitats" below).
- Northern Hardpan Vernal Pool. Numerous vernal pools may be found within annual grassland habitats of the Rio Mesa new growth area (see discussion under "Special Status Species" and "Sensitive Biotic Habitats" below).
- Valley Foothill Riparian. The largest remaining areas of the valley foothill riparian community in Fresno and Madera Counties occurs along the eastern boundary of the Rio Mesa new growth area. Valley foothill riparian habitat, once abundant in the Central Valley, now occurs as a narrow discontinuous band along rivers and creeks. The San Joaquin River, its associated riparian habitat, and tributary drainages incised in the adjacent bluffs constitute critical breeding and foraging habitat for migratory wildlife. The river corridor and tributary drainages are primary routes for home range, dispersal, and migratory movements of native wildlife. The values of this habitat to wildlife will be somewhat diminished if upland foraging habitat (primarily annual grassland) is converted to residential and commercial development. Habitat values will be substantially diminished if development occurs within the San Joaquin River bottom. Development along the bluffs and within the river bottom could restrict or eliminate the daily movement of Bald Eagles, wintering waterfowl, mule deer, and mountain lions. Such development could also eliminate vegetation providing cover, breeding habitat, foraging habitat and roost sites for many other terrestrial vertebrates. Grading in and adjacent to riparian and riverine habitats can result in soil erosion and the concomitant deposition of sediment in these sensitive habitats. Non-point source pollution of creeks and rivers may result if street runoff contains oil, grease, heavy metals, pesticides and herbicides.

Development within the designated new growth areas will substantially diminish habitat for native plants and wildlife. Development permitted by these plans could interfere substantially with the movement of resident and migratory wildlife.

Special Status Species Affected. Habitat conversion within the new growth areas, primarily the Rio Mesa area, will eliminate large areas of habitat used by one or more special status species (see *Background Report* for details). Impacts to the following species could be significant.

Special Status Plants:	Hartweg's Pseudobahia Greene's Tuctoria Hairy Orcutt Grass San Joaquin Valley Orcutt Grass Succulent Owl's Clover
Special Status Animals:	Bald Eagle Valley Elderberry Longhorn Beetle Southwestern Pond Turtle California Tiger Salamander Vernal Pool Fairy Shrimp Vernal Pool Tadpole Shrimp California Linderiella Western Spadefoot Prairie Falcon Burrowing Owl

Development permitted within the new growth areas could substantially reduce, and in some cases eliminate, populations of the following special status plants and animals.

- Plants and Animals of Northern Hardpan Vernal Pools. Many species that would be affected by development, particularly in the Rio Mesa new growth area, are associated with northern hardpan vernal pools (see discussion under "Sensitive Biotic Habitats and Significant Natural Areas Affected"). These include plants and animals proposed for listing as federally endangered species. Among them are two species of orcutt grass, Greene's tuctoria, succulent owl's clover, the California tiger salamander. Two endangered freshwater shrimp may occur.
- Hartweg's Pseudobahia. The last known Madera County populations of the federally endangered Hartweg's pseudobahia occupy areas of pumice soils just west of Friant Dam. Habitats supporting these populations would be replaced by low density residential (1 to 7.5 dwelling units per acre) housing according to the *Rio Mesa Area Plan EIR*.
- Bald Eagle. Bald Eagles winter at Millerton Lake and forage downstream along the San Joaquin River. Cumulative effects of development adjacent to the river may disrupt foraging patterns, reducing the suitability of Millerton Lake as wintering habitat for Bald Eagles.
- Special Status Plants and Animals of the Valley Foothill Riparian Community. Two special status animals are associated with riparian communities of the San Joaquin River. Development within and adjacent to the river corridor could eliminate habitat, or otherwise reduce habitat values, for valley elderberry longhorn beetle and southwestern pond turtle.

Although the extent and severity of impacts to the species listed above cannot be established without a project-level analysis for each project site, development of the intensity provided for in the *Land Use Diagram* and area plans would eliminate much of the new growth areas as habitat for these species.

Thus, implementation of the area plans for new growth areas, particularly as proposed in the *Rio Mesa Area Plan*, will substantially affect special status species of plants and animals and their habitats.

Sensitive Biotic Habitats and Significant Natural Areas Affected. Habitats are generally considered sensitive when they meet two criteria: 1) they support a unique assemblage and/or a notable diversity of native plant and animals; and 2) due to agricultural, residential, and commercial development, these habitats have largely disappeared from California. Two sensitive habitats have been identified within the Rio Mesa new growth area (other new growth areas have already been converted to agricultural uses).

- **Northern Hardpan Vernal Pools.** Approximately 250 pools have been identified in the area south of Little Table Mountain. An unknown number occur to the east of Little Table Mountain due south of Highway 145. The annual grasslands in which these pools occur will be replaced with low density residential (1 to 7.5 dwelling units per acre) and very low residential (0.3 - 0.2 dwelling units per acre) according to the *Rio Mesa Area Plan*. As discussed above, these pools provide habitat for a number of special status plants and animals, several of which have been recently listed as federally endangered species. These pools also provide important wintering habitat for a number of waterbirds. Furthermore, these vernal pools are considered jurisdictional wetlands by the USACE. A permit to develop jurisdictional wetlands is required by the USACE. Implementation of the *Rio Mesa Area Plan* is expected to eliminate a substantial number of northern claypan vernal pools.
- **Valley Foothill Riparian.** Development as proposed in the *Rio Mesa Area Plan* could also substantially reduce the value of the valley foothill riparian habitat along the San Joaquin River for both resident and migratory species of wildlife as discussed previously.
- **Significant Natural Areas.** Significant natural areas potentially affected by development of the Rio Mesa new growth area include Little Table Mountain West and Little Table Mountain Southwest, both of which are located in the Rio Mesa area. These sites are the location of northern hardpan vernal pools and associated special status plants and animals.

Because vernal pools provide habitat for special status plants and animals, and because valley foothill riparian habitat is of critical importance for a substantial variety of resident and migratory wildlife, the loss, or reduction of values, of these habitats would be considered significant environmental impacts.

Habitat Losses and/or Reduction of Habitat Values from Rural Development

The *Land Use Diagram* designates large areas of eastern Madera County as agricultural, rural, and very low density residential lands. Most rural residential areas are designated and zoned for parcels of 10 acres or less. Most of this residential development would occur in the foothills of the Sierra Nevada Mountains between 1,000 and 3,000 feet in elevation.

In some cases proposed land use designations merely confirm that residential development has already been approved and growth in these areas will result from infilling presently undeveloped lots. Rolling Hills, Madera Ranchos, Bonadelle Ranchos, Lake Madera Country Estates, and Valley Lake Ranchos are existing subdivisions in the San Joaquin Valley east of Madera that are in varying stages of buildout. Examples of such subdivisions in the foothills of eastern Madera County include Yosemite Lakes Park, Indian Lakes Estates, Mudge Ranch, Teaford Meadows, and Sierra Highlands.

In addition to existing subdivisions, it can be expected that remaining large parcels within designated residential land use categories will be subdivided in the future. These lands are located primarily in

North Fork/Millerton area (Coarsegold, Oakhurst, Ahwahnee), the North Fork/Millerton area (North Fork), and the Raymond/Central area (Raymond).

Aggregate growth in suburban and rural habitats of Madera County will result in substantial loss of native habitats, or a general reduction of habitat values for native plants and animals. The population of the North 41 Corridor Area is expected to increase by 109 percent between the years 1990 and 2010. Such an increase would result in a population of more than 33,000 individuals in Coarsegold, Oakhurst, and Ahwahnee. An additional 6,030 dwelling units will be built to accommodate this population. Population increases in the North Fork/Millerton Area and Raymond/Central Area are expected to be more modest. Habitat losses would be associated with site grading, road construction, and the clearing of firebreaks for wildfire prevention (one foothill community is reportedly seeking funding for the creation of a firebreak around the entire community).

Biotic Habitats Affected. Information sufficient to quantify impacts to biotic habitats from rural development is not available. Nonetheless large areas of native biotic habitats will be eliminated from designated rural residential lands altogether. The value of remaining biotic habitats for many native wildlife species are likely to be substantially reduced. Some habitat losses will result from infilling within existing subdivisions, while other more substantial losses will result from the development of new subdivisions. The primary habitats to be affected will be blue oak and blue-oak/digger pine woodlands, although riparian habitats along the Fresno River and Coarsegold, Finegold, and Miami Creeks will also be affected. The elimination or modification of native habitats in eastern Madera County will affect wildlife species in four ways:

- 1) cover, breeding habitat, and foraging habitat will be eliminated;
- 2) the proximity of humans, cars, outdoor power tools, pets, etc. to small patches of undeveloped habitat will reduce the attractiveness of that habitat for many wildlife species;
- 3) home range, dispersal and migratory movements of native wildlife will be disrupted by homes, roads, and commercial centers;
- 4) mortality of native wildlife will increase from predation by free-roaming pets, poaching, and collisions with vehicular traffic.

Large mammals such as migratory mule deer and mountain lions are expected to be particularly affected by continued rural development. The Oakhurst Deer Herd population has declined substantially since 1961. Proposed land use designations will eliminate most of the Oakhurst Basin as winter habitat for migratory deer. Development within the Oakhurst Basin and on Thornberry Mountain, Deadwood Peak, the ridge between Bass Lake and the Oakhurst Basin represents a significant obstacle to migratory deer attempting to reach remaining favored wintering habitat on Fresno Flats. Similar development in North Fork will have similar effects on the San Joaquin Deer Herd. Continued residential development within wintering habitat and along defined movement corridors could push migratory deer populations below a sustainable level, such that the migratory herd is eventually extirpated from Madera County. Sustained development is likely to reduce resident deer populations as well.

Thus, land development as provided for in the *Land Use Diagram* will interfere substantially with the movement of resident and migratory wildlife and substantially diminish habitat for wildlife and plants.

Special Status Species Affected. Habitat losses within rural residential areas of eastern Madera County, primarily the areas of Coarsegold, Oakhurst, Ahwahnee, and North Fork, will eliminate large areas of habitat potentially occupied, or otherwise used by, one or more special status species (see *Background Report* for details). Impacts to the following species could be significant:

Special Status Plants:	Flaming Trumpet Greene's Tuctoria Hairy Orcutt Grass Hoover's Calycadenia Mariposa Pussypaws Orange Lupine San Joaquin Valley Orcutt Grass Succulent Owl's Clover Beaked Clarkia Ewan's Larkspur
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Special Status Animals:	California Tiger Salamander Valley Elderberry Longhorn Beetle California Red-legged Frog Southwestern Pond Turtle Vernal Pool Fairy Shrimp Vernal Pool Tadpole Shrimp Foothill Yellow-legged Frog Western Spadefoot Burrowing Owl Yellow Warbler Yellow-breasted Chat American Badger Ringtail
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Development permitted within rural areas by 2010 under the *Land Use Diagram* could substantially reduce, and in some cases eliminate, populations of special status plants and animals occurring in a variety of biotic habitats. Plants and animals most likely to be affected include the following:

- Special Status Species of Northern Hardpan Vernal Pools. A number of vernal pool plants and animals could be affected by infill development within Madera Ranchos, Bonadelle Ranchos, Lake Madera Country Estates, and Valley Lakes Ranchos. Extensive vernal pool habitat can still be found on developed and undeveloped lots within these subdivisions. Until site-specific surveys show otherwise, these pools must be considered potential habitat for many special status plants and animals.
- Special Status Plants and Animals of the Valley Foothill Riparian Community. Development within and adjacent to riparian communities of rivers and creeks of Madera County could eliminate habitat, or otherwise reduce habitat values, for valley elderberry longhorn beetle, the southwestern pond turtle, the California red-legged, the foothill yellow-legged frog, the Yellow Warbler, the Yellow-breasted Chat, and the Ringtail.
- Mariposa Pussypaws and Orange Lupine. Coarse decomposed granite soils associated with exfoliating granite outcrops provide habitat for two special status plants, the Mariposa pussypaws and the orange lupine in the vicinity of Ahwahnee and Coarsegold. These plants have a very limited

distribution, known from only a few populations in Mariposa, Madera, and Fresno Counties. One Madera County location for these plants has already been subdivided. Continued development within areas designated for rural development may result in the loss of additional populations.

- Other Special Status Species. The development of non-native grassland and oak woodland communities will further reduce habitat for Burrowing Owls and American Badgers. Site preparation for development (e.g. trenching and grading) could result in mortality of individuals trapped in their burrows.

Sensitive Biotic Habitats and Significant Natural Areas Affected. Two sensitive habitats have been identified within areas of current and proposed rural development.

- Northern Hardpan Vernal Pools. Areas designated by the *Land Use Diagram* containing extensive vernal pool habitat have already been subdivided for rural development. An estimated 700 pools occur within Madera Ranchos, Bonadelle Ranchos, Lake Madera Country Estates, and Valley Lake Ranchos. The sizes of these pools vary from a few hundred square feet to several thousand. Homes have not yet been built on many of the lots within these subdivisions. Home construction on these lots may not be possible without the destruction of the vernal pools on them. The biotic values of pools remaining after buildout of these subdivisions will be substantially reduced by the proximity of residential development to them. As discussed elsewhere, these pools provide habitat for special status plants and animals and serve as important wintering habitat for a number of waterbirds.

• Valley Foothill Riparian Communities. Continued rural development within and adjacent to valley foothill riparian habitat will further degrade the values of these habitats or eliminate them altogether. The values associated with these habitats have already been significantly diminished by rural development within the Oakhurst Basin. Commercial development within Oakhurst has been, in some cases, to the very edge of the Fresno River. Portions of Miami Creek are dewatered during the summer by diversions for golf course irrigation. Additional development within riparian communities may be expected, since river and creek frontage are favored locations for development. Furthermore, the projected population of foothill residents will create an additional need for domestic water. New reservoirs on existing rivers and creeks may be necessary, which could inundate much of remaining riparian habitats. Increasing amounts of water will probably be diverted from existing creeks such that they are dewatered during the summer. If so, additional losses of valley foothill riparian habitat may be expected. The fragmentation and elimination of valley foothill riparian habitat in the county will substantially affect the Oakhurst Deer Herd and other special status birds and mammals dependent on it for breeding and foraging habitat, and home range, dispersal and migratory movements. Grading in and adjacent to riparian and riverine habitats can result in soil erosion and the concomitant deposition of sediment in these sensitive habitats. Non-point source pollution of creeks and rivers may result if street runoff contains oil, grease, heavy metals, pesticides and herbicides. The installation of septic systems for many of the more than 6,000 dwelling units may also lead to increased pollutant loading within creeks and rivers.

- Significant Natural Areas. Two significant natural areas are located within areas designated for rural development. One area is Indian Lakes Estates, an existing subdivision providing habitat for Mariposa pussypaws and orange lupine. Lots providing habitat for these species have already been developed. A second area is on private land in Ahwahnee. The long-term viability of populations of these species in these locations depends on the willingness of individual property owners to take the necessary measures to protect these plants from extirpation.

Because vernal pools provide habitat for special status plants and animals, and because valley foothill riparian habitat is of critical importance for a substantial variety of resident and migratory wildlife, the loss, or reduction of values, of these habitats from proposed rural development is considered a significant environmental impact.

Potential Habitat Quality Reduction Associated with Timber, Agriculture, Mining, and Recreation

Timber harvesting is confined primarily to the public lands of eastern Madera County located within the Sierra National Forest. The eastern-most portion of the national forest lands have been designated a wilderness area and is, therefore, closed to timber harvesting. Conifer forests in which timber harvesting may occur are confined to the western slopes of the Sierra Nevada between the elevations of 3,500 feet and 7,500 feet in elevation. The volume of timber removed from public lands between now and the year 2010 is expected to decline as the result of more strict forest management rules and requirements. If so habitat modification resulting from timber harvesting will decline, but other possible forest management practices (fire suppression, the application of herbicides, etc.) may result in other adverse effects on native biotic resources.

Most native biotic habitats within the county which are suited for agriculture have already been converted to croplands, orchards, vineyards, and pastures. The area devoted to agriculture in the county will probably increase. County farmers will probably shift the cropping patterns on existing agricultural lands in response to changing market conditions.

The use of recreational lands within Madera County is likely to increase substantially between the years 1994 and 2010. Visitation to Yosemite National Park increases yearly and topped 3,900,000 visitors in 1993. The park was closed to additional visitors during the busiest weekends of April and May of that year. Further increases in visitation are expected and the National Park Service is considering options to limit the number of visitors allowed in the park at any given time. The Sierra National Forest, with a large wilderness area, many public campgrounds, miles of fishing streams, and the recreation mecca of Bass Lake has become a major destination of both county residents and visitors from other parts of the state and country. Campgrounds are full on busy weekends and, in recent years, traffic into Bass Lake during the July 4th weekend has been carefully regulated. Additional activities and developments on private lands in Oakhurst and Coarsegold draw additional visitors to the foothills. These include one of the largest Peddler's Faires in the state on the Memorial and Labor Day weekends, Mountaineer Days (including the Coarsegold Rodeo), the Bass Lake fishing derby, a proposed theme park/entertainment complex in Oakhurst, and a proposed gaming casino in Coarsegold or Oakhurst to be operated by a local Indian Tribe. Existing and proposed recreational activities are expected to be a considerable impetus for growth in foothill communities (implications of which have been previously discussed).

Biotic Habitats Affected. Significant impacts to conifer forest communities are not expected from likely timber harvesting activities. Some expansion of agricultural lands into native or naturally occurring habitats is likely. Alkaline desert scrub, annual grasslands, and northern hardpan vernal pools are all likely to be affected by the expansion of agricultural lands. Increasing numbers of visitors to Madera County will reduce habitat values for wildlife species intolerant of close proximity to humans. Habitat losses may also be expected as additional recreational facilities are constructed. Increased visitation will result in the growth of the resident population in eastern Madera County. The effects of such growth on biotic habitats and the wildlife species they support has been discussed previously.

Special Status Species Affected. An expansion of agricultural lands and increasing demand for access to recreational lands will eliminate or diminish the value of habitats important for special status plants and animals (see *Background Report* for details). Impacts to the following species could be significant:

Special Status Plants:

Palmate Bird's Beak
 Flaming Trumpet
 Greene's Tuctoria
 Hairy Orcutt Grass
 Hoover's Calycadenia
 Mariposa Pussypaws
 Orange Lupine
 San Joaquin Valley Orcutt Grass
 Succulent Owl's Clover
 Beaked Clarkia
 Ewan's Larkspur

Special Status Animals:

Blunt-nosed Leopard Lizard
 San Joaquin Kit Fox
 Fresno Kangaroo Rat
 California Tiger Salamander
 Valley Elderberry Longhorn Beetle
 California Red-legged Frog
 Southwestern Pond Turtle
 Vernal Pool Fairy Shrimp
 Vernal Pool Tadpole Shrimp
 Foothill Yellow-legged Frog
 Western Spadefoot
 Burrowing Owl
 Yellow Warbler
 Yellow-breasted Chat
 American Badger
 Ringtail

Land development associated with timber harvesting, agriculture, and recreational development could substantially reduce, and in some cases eliminate, populations of special status plants and animals occurring in a variety of biotic habitats. Plants and animals most likely to be affected include the following:

- Plants and Animals of Alkali Desert Scrub. Alkali desert scrub within the western-most portion of the county provides habitat for the blunt-nosed leopard lizard, San Joaquin kit fox, and possibly, the Fresno kangaroo rat. The last historical sighting of palmate bird's beak in Madera County was within this habitat.
- Northern Hardpan Vernal Pool. The loss of northern hardpan vernal pool habitats and their associated special status plants and animals has been discussed previously. Potential losses of this habitat from the widespread conversion of annual grassland to vineyards and orchards has been substantial in recent years. Additional losses of this habitat may be expected as annual grasslands presently used as rangeland are converted to more intensive agricultural uses.

- Other Special Status Species. Implications for other special status plants and animals resulting from a growing human population within their habitats has been previously discussed.

The expansion of agricultural lands and the increasing importance of eastern Madera County for recreational activities of county residents and out-of-county visitors may substantially affect special status plants and animals. These impacts would be considered significant.

Sensitive Biotic Habitats and Significant Natural Areas Affected. Sensitive biotic habitats to be affected by the expansion of agricultural lands and an increasing number of recreational visitors include alkaline desert scrub, northern hardpan vernal pools, valley foothill riparian, and other previously mentioned habitats to be affected by rural development.

These sensitive habitats are of critical importance for a substantial variety of native plants and resident and migratory wildlife, include several special status species. Therefore, the loss, or reduction of values, of these habitats to native plants and animals from proposed rural development would be considered significant environmental impacts.

GENERAL PLAN POLICY RESPONSE

This section describes how *General Plan* policies address potential vegetation and wildlife impacts associated with development under the *Land Use Diagram*.

Numerous policies and programs address potential implications for biological resources by requiring that new development generally avoid, minimize, reduce, or compensate for biological resource impacts. These policies and programs are listed by general category.

Wetland and Riparian Areas Policies

- 5.D.1. *The County shall comply with the wetlands policies of the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.*
- 5.D.2. *The County shall require new development to mitigate wetland loss in both regulated and non-regulated wetlands through any combination of avoidance, minimization, or compensation. The County shall support mitigation banking programs that can provide the opportunity to mitigate impacts to rare, threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas.*
- 5.D.3. *Development should be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.*
- 5.D.4. *The County shall require riparian protection zones around natural watercourses. Riparian protection zones shall include the bed and bank of both low and high flow channels and associated riparian vegetation, the band of riparian vegetation outside the high flow channel, and buffers of 100 feet in width as measured from the top of bank of unvegetated channels and 50 feet in width as measured from the outer edge for the canopy of riparian vegetation. Exceptions may*

be made in existing developed areas where existing development and lots are located within the setback area.

- 5.D.5. The County shall strive to identify and conserve remaining upland habitat areas adjacent to wetlands and riparian areas that are critical to the feeding or nesting of wildlife species associated with these wetland and riparian areas.*
- 5.D.6. The County shall require new private or public developments to preserve and enhance existing native riparian habitat unless public safety concerns require removal of habitat for flood control or other public purposes. In cases where new private or public development results in modification or destruction of riparian habitat for purposes of flood control, the developers shall be responsible for creating new riparian habitats within or near the project area at a ratio of three acres of new habitat for every acre destroyed.*
- 5.D.7. The County shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, nutrient catchment, and wildlife habitats. Such communities shall be restored, where possible.*
- 5.D.8. The County shall support the goals and policies of the San Joaquin River Parkway Plan to preserve existing habitat and maintain, enhance, or restore native vegetation to provide essentially continuous riparian and upland habitat for wildlife along the river between Friant Dam and the Highway 145 crossing.*

Program

- 5.2. The County shall work toward the acquisition by public or private, non-profit conservation organizations of creek corridors, wetlands, and areas rich in wildlife or of a fragile ecological nature as public open space where such areas cannot be effectively preserved through the regulatory process. Such protection may take the form of fee acquisition or protective easements and may be carried out in cooperation with other local, state, and federal agencies and private entities. Acquisition should include provisions for maintenance and management in perpetuity.*

These policies and programs protect wetland communities, related riparian areas, and appropriate buffer areas from development-related impacts. They further commit the county to wetland mitigation requirements to preserve wetland and riparian habitats.

Fish and Wildlife Habitat

- 5.E.1. The County shall identify and protect critical nesting and foraging areas, important spawning grounds, migratory routes, waterfowl resting areas, oak woodlands, wildlife movement corridors, and other unique wildlife habitats critical to protecting and sustaining wildlife populations.*
- 5.E.2. The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the reasonable value of the habitat for wildlife is maintained.*
- 5.E.3. The County shall encourage private landowners to adopt sound wildlife habitat management practices, as recommended by the California Department of Fish and Game officials and the U.S. Fish and Wildlife Service.*

- 5.E.4. *The County shall support preservation of the habitats of rare, threatened, endangered, and/or other special status species. The County shall consider developing a formal habitat conservation plan in consultation with federal and state agencies, as well as other resource conservation organizations. Such a plan would provide a mechanism for the acquisition and management of lands supported by threatened and endangered species.*
- 5.E.5. *The County shall support the maintenance of suitable habitats for all indigenous species of wildlife through maintenance of habitat diversity.*
- 5.E.6. *The County shall ensure the conservation of sufficiently large, continuous expanses of native vegetation to provide suitable habitat for maintaining abundant and diverse wildlife, if this preservation does not threaten the economic well-being of the county.*
- 5.E.7. *The County shall support the preservation or reestablishment of fisheries in the rivers and streams within the county, whenever possible.*
- 5.E.8. *The County shall ensure close monitoring of pesticide use in areas adjacent to habitats of special status plants and animals.*
- 5.E.9. *The County shall promote effective methods of ground squirrel control on croplands bordering sensitive habitat that do not place kit foxes and other special-status species at risk.*
- 5.E.10. *Prior to approval of discretionary development permits involving parcels within a significant ecological resource area, the County shall require, as part of the environmental review process, a biotic resources evaluation of the sites by a qualified biologist. The evaluation shall be based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of rare, threatened, or endangered species of plants or animals. Such evaluation will consider the potential for significant impact on these resources and will either identify feasible measures to mitigate such impacts or indicate why mitigation is not feasible.*
- 5.E.11. *The County shall provide for a minimum 200 foot wildlife corridor along the San Joaquin River between Friant Dam and the Highway 145 crossing, consistent with the San Joaquin River Parkway Plan. The County shall require a buffer with a minimum width of 150 feet between existing or planned urban or suburban uses. Exceptions may be necessary where the minimum width is infeasible due to topography or other physical constraints. In these instances, an offsetting expansion on the opposite side of the river should be provided.*

Programs

- 5.4. *The County shall initiate detailed inventories of ecologically significant resource areas, including unique natural areas, wetland areas, riparian areas, habitats of rare, threatened, endangered, and other uncommon and special-status species. The inventory should be conducted as area plans, specific plans, PUDs, or other planning projects are considered by the County. The inventory should be based on the California Wildlife Habitats Relationships (WHR) system and shall identify appropriate buffer zones around the identified resource areas in order to account for periodic, seasonal, or ecological changes. The maps should be revised on a regular basis to reflect the availability of new information from other agencies, changes in definition, or any other changes.*

- 5.5. *The County shall maintain current maps that indicate the extent of critical habitat for important fish and game species, as these maps are made available by the California Department of Fish and Game (CDFG). The relative importance of these game species shall be determined by the County, in consultation with CDFG, based on relevant ecological, recreational, and economic considerations. These maps shall be used by the County to evaluate proposed area plans, specific plans, and any project development proposals to determine compatibility of development with maintenance and enhancement of important fish and game species.*
- 5.6. *The County shall investigate costs and possible funding sources for development of a habitat conservation plan.*

These policies and programs provide for the protection of fish and wildlife species in order to maintain their populations at viable levels.

Vegetation Policies

- 5.F.1. *The County shall encourage landowners and developers to preserve the integrity of existing terrain and natural vegetation in visually-sensitive areas such as hillsides, ridges, and along important transportation corridors.*
- 5.F.2. *The County shall require developers to use native and compatible non-native species, especially drought-resistant species, to the extent possible in fulfilling landscaping requirements imposed as conditions of discretionary permit approval or for project mitigation.*
- 5.F.3. *The County shall support the preservation of outstanding areas of natural vegetation, including, but not limited to, oak woodlands, riparian areas, and vernal pools.*
- 5.F.4. *The County shall ensure that landmark trees are preserved and protected.*
- 5.F.5. *The County shall establish procedures for identifying and preserving rare, threatened, and endangered plant species that may be adversely affected by public or private development projects. The County shall consider developing a formal habitat conservation plan in consultation with federal and state agencies, as well as other resources conservation organizations. Such a plan would provide a mechanism for the acquisition and management of land supporting threatened and endangered species*
- 5.F.6. *The County shall require that new development preserve natural woodlands to the maximum extent possible.*
- 5.F.7. *The County shall require that development on hillsides be limited to maintain valuable natural vegetation, especially forests and open grasslands, and to control erosion.*
- 5.F.8. *The County shall support the continued use of prescribed burning to mimic the effects of natural fires to reduce fuel volumes and associated fire hazard to human residents and to enhance the health of biotic communities.*

Program

- 5.7. *The County shall prepare and maintain an updated list of state and federal rare, threatened, and endangered plant species known or suspected to occur in the county. The following other uncommon or special-status species which occur or may occur in the county should also be included on the list: 1) plant species included in the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California; 2) species of special concern as designated by California Department of Fish and Game; and 3) California Fully Protected animals as defined by California Fish and Game Code. In addition to updating the list as new information becomes available, the list should be reviewed and amended at least once every two years.*

These policies and programs provide for the protection and preservation of valuable vegetation resources.

Open Space for the Preservation of Natural Resources Policies

- 5.H.1. *The County shall support the preservation and enhancement of natural land forms, natural vegetation, and natural resources as open space. To the extent feasible, the County shall permanently protect as open space areas of natural resource value, including wetlands preserves, riparian corridors, woodlands, and floodplains.*
- 5.H.2. *The County shall require that new development be designed and constructed to preserve the following types of areas and features as open space to the maximum extent feasible:*
- a. High erosion hazard areas;*
 - b. Scenic and trail corridors;*
 - c. Streams and streamside vegetation;*
 - d. Wetlands;*
 - e. Other significant stands of vegetation;*
 - f. Wildlife corridors; and*
 - g. Any areas of special ecological significance.*
- 5.H.3 *The County shall support the maintenance of open space and natural areas that are interconnected and of sufficient size to protect biodiversity, accommodate wildlife movement, and sustain ecosystems.*
- 5.H.4. *Recognizing the importance of both public and privately-owned open space, the County shall encourage both private and public ownership and maintenance of open space.*
- 5.H.5. *The County shall require that significant natural, open space, and cultural resources be identified in advance of development and incorporated into site-specific development project design.*

Program

- 5.9. *The County will review and revise the planned zoning districts of the Zoning Ordinance to add provisions for the protection of significant natural, open space, and cultural resources.*

These policies and programs support the preservation and enhancement of open space lands to maintain natural resources, including areas of high erosion hazards, streams and associated riparian habitat, wetlands, wildlife corridors, and areas of special ecological significance.

IMPACTS

The following summarizes impacts of the *General Plan* after full implementation of *General Plan* policies. The impacts are grouped into three categories of development:

- Habitat Losses in New Growth Areas
- Habitat Losses and/or Reduction of Habitat Values from Rural Development
- Potential Habitat Quality Reduction Associated with Timber, Agriculture, Mining, and Recreation Uses

Habitat Losses in New Growth Areas

The development of designated new growth areas in the Madera and South 41 Corridor areas will result in the conversion of approximately 13,000 acres of open space, a substantial portion of which includes croplands, orchards, and vineyards. Lands used for these purposes generally do not support native plants and are of relatively low value for native terrestrial vertebrates. These lands are not used by most special status plants and animals. The conversion of these lands to residential subdivisions, commercial development, and required infrastructure is unlikely to result in significant impacts to either native plants or animals. Furthermore, full implementation of policies contained in the *Policy Document* will foster the preservation of designated areas of agricultural lands within the county (see *Policies 5.A.1 through 5.A.12*). Therefore, the biotic values that are associated with agricultural lands will largely be protected countywide, if not in the new growth areas.

The *Policy Document* provides guidelines for avoiding, minimizing, reducing or compensating for impacts to other naturally occurring biotic habitats and the native plants and animals occurring within them. For example, guidelines provide for the protection of wetlands by committing the county to a policy to protection of wetlands (*Policy 5.D.1*). Other policies require full mitigation for impacts to wetlands (*Policy 5.D.2*), protection of water quality in wetlands (*Policy 5.D.3*), the establishment of buffer zones around riparian areas and watercourses (*Policy 5.D.4.*), the preservation of critical wildlife habitat including movement corridors (*Policy 5.E.1.*), and the protection of habitat for special status species (*Policies 5.E.4. and 5.F.5.*).

The implications of these policies as they relate to specific projects in new growth areas are: 1) there will be no net loss of vernal pool habitat (locally abundant in the Rio Mesa area), consistent with federal agency requirements; 2) habitats important to special status plants and animals (vernal pools, adjoining grasslands, riparian communities of the San Joaquin River) will be protected or, where lost to development, replaced (e.g., habitats supporting populations of Hartweg's pseudobahia will be preserved as undeveloped open space); 3) development will avoid known animal movement routes (i.e., the San Joaquin River and its principal drainage which drains the area of Little Table Mountain); and 4) suitable buffers will be established around the San Joaquin River, tributary drainages, and the riparian habitat associated with them. Implementation of *General Plan* policies would partially mitigate the effects of widespread development on native plants and animals within new growth areas. These policies could not be fully implemented, however, if development occurs in the locations and to the extent shown in the *Rio Mesa Area Plan*.

The *Rio Mesa Area Plan* provides for low density residential and very low density residential development where most of the estimated 250 vernal pools of the planning area are located. An unknown number of

these pools provide habitat for California tiger salamanders and western spadefoots (toads), special status species which must overwinter (estivate) in rodent burrows of adjoining grasslands. They also provide habitat for one or more special status vascular plants. Replacement pools with significant ecological value can potentially be created on a small scale. Meaningful replacement of large vernal pool complexes such as those of the Rio Mesa new growth area is neither technically nor economically feasible.

Development in the Rio Mesa new growth area is expected to result in significant effects on the ecological values the San Joaquin River's riparian corridor, despite *General Plan* policies to protect these resources. The river forms the eastern boundary of the Rio Mesa new growth area. Low density residential and very low density residential development would be permitted along approximately 11 miles of the river corridor's length according to the *Rio Mesa Area Plan*. Suggested buffers around riparian habitats in the *Policy Document* (100 feet in width as measured from the top of bank of unvegetated channels and 50 feet in width as measured from the outer edge of the canopy of riparian vegetation) cannot meaningfully protect the ecological values of the complex of habitats associated with large rivers. The effects of many people living immediately adjacent to the river and its habitats cannot be lessened. Once grassland habitats are developed, the values they provide wildlife also dependent on riparian habitats for cover, roosting, movement, etc. are lost. No amount of replacement habitat can ameliorate these effects.

Impacts to vernal pools and the riparian corridor of the San Joaquin River resulting from development in the Rio Mesa new growth area are considered significant and cannot be mitigated to a less-than-significant level.

Habitat Losses and/or Reduction of Habitat Values from Rural Development

Rural residential development in the South 41 Corridor area, North 41 Corridor area, Raymond/Central area, and the North Fork/Millerton area will result in the conversion of native habitats to rural subdivisions, commercial facilities, and necessary infrastructure. The habitats which would be primarily affected include non-native grassland, blue oak woodland and blue-oak/digger pine woodlands. Smaller areas of vernal pools and the valley foothill riparian community would also be affected. These habitats provide significant value to many native plants and animals, including several of special status.

The *Policy Document* provides guidelines for avoiding, minimizing, reducing or compensating for impacts to naturally occurring biotic habitats and the native plants and animals occurring within them. As noted above, these guidelines provide for the protection of wetlands, riparian habitats, critical wildlife habitat including movement corridors, and habitat for special status species.

The implications of these policies as they relate to specific projects in areas designated as rural residential are: 1) there will be no net loss of vernal pool habitat (locally abundant in and near a number of rural subdivisions east of Madera), consistent with federal agencies requirements; 2) habitats important to special status plants and animals (e.g., vernal pools, adjoining grasslands, riparian communities, etc.) will be protected or, where lost to development, replaced (e.g. habitats supporting populations of Mariposa pussypaws or orange lupine); 3) development will avoid known animal movement routes (located primarily along rivers and creeks); and 4) suitable buffers will be established around all natural drainages and their associated riparian habitat (e.g., the Fresno River, Coarsegold Creek, Finegold Creek, Miami Creek, Lewis Creek, China Creek, etc.). Implementation of *General Plan* policies would partially mitigate the effects of widespread development on native plants and animals. It is unlikely, however, that these policies could be fully implemented if development occurs as shown on the *Land Use Diagram* and at the levels indicated in Chapter 2.

The human population in such areas, and the number of dwelling units required to accommodate it, will nearly double by the year 2010. Parcel sizes will be generally 5 acres or less, large amounts of vegetation will be cleared around dwellings and towns to create fuel breaks (to reduce risk of wildfire), and new and widened roads will be required to accommodate increased traffic loads. There will be a substantial net loss of habitat for wildlife. Traditional wildlife movement routes are likely to be obstructed by residential subdivisions and roads, or otherwise modified by rural development. Replacement habitats suitable for native wildlife cannot be created elsewhere as compensation for habitats lost to development. Impacts to wildlife habitat in the South 41 Corridor, North 41 Corridor, Raymond/Central, and North Fork/Millerton areas resulting from the *General Plan* are considered significant, most significantly in the North 41 Corridor area, and cannot be mitigated to a less than significant level.

Potential Habitat Quality Reduction Associated with Timber, Agriculture, Mining, and Recreation

The reduction of habitat quality associated with timber harvesting, agriculture, mining and recreational uses permitted under provisions of the *General Plan* is avoidable, seasonal, temporary, or can be minimized by the implementation of mitigation measures during subsequent project level environmental reviews. The *Policy Document* provides guidelines for avoiding, minimizing, reducing or compensating for impacts to other naturally occurring biotic habitats and the native plants and animals occurring within them. As previously noted, these guidelines provide for the protection of wetlands, riparian habitats, critical wildlife habitat including movement corridors, and habitat for special status species.

The implications of these policies as related to the above activities throughout the county are: 1) the conversion of vernal pools and other sensitive habitats to intensive agriculture in areas designated as "agricultural exclusive" will be discouraged; 2) private recreational facilities (i.e. campgrounds, RV parks, etc.) encouraged by the *Policy Document* (Policy 4.A.9.) will be located outside of sensitive biotic habitats; 3) county parks will be carefully planned in order to avoid impacts to native biological resources, and where possible to enhance these resources under the guidance of biologists with the appropriate expertise.

Full implementation of the goals, policies, and programs of the *General Plan* could reduce many impacts to native biological resources to a less-than-significant level, although significant residual impacts may remain in some cases. The conversion of endangered species habitat to agricultural uses (croplands, vineyards and orchards) may continue to occur under provisions of the *General Plan* as these policies generally apply to projects that require discretionary approval by the County. Continued agricultural operations would not be subject to environmental review.

In addition, although the *Policy Document* provides guidelines for the protection of wetlands, riparian habitats, critical wildlife habitat including movement corridors, and habitat for special status species, other policies of the *General Plan* encourage increased agricultural activities on lands designated for agricultural uses (Policy 5.A.6.). Most of the county's vernal pool habitats are located in grassland designated by the *Land Use Diagram* as Agricultural Exclusive. The last remaining areas of alkali desert scrub habitat are also designated Agricultural Exclusive. If the County is committed to "increased agricultural activities" in lands that serve as habitat for special status plants and animals, including those listed as federally or state threatened or endangered, then the elimination of such lands as habitat for these species is considered significant in the West/Agriculture, Chowchilla/Fairmead, Madera, Raymond/Central, South 41 Corridor, and North 41 Corridor area. These impacts cannot be mitigated to a less-than-significant level.

MITIGATION MEASURES

No mitigation measures are available to reduce the impacts of habitat losses and/or reduction of habitat values from rural development and agricultural activities to a less-than-significant level without changing the location of planned land uses. Impacts to vernal pools and the riparian corridor of the San Joaquin River resulting from development in the Rio Mesa new growth area could be mitigated to a less-than-significant level by developing a plan for the Rio Mesa area that avoids and protects critical wetland and riparian areas. This would probably result in a reduction in the overall holding capacity of the area.

IMPLICATIONS OF DEVELOPMENT BEYOND 2010

Continued Habitat Conversion Beyond 2010

Biotic habitats within the new growth areas designated by the *Land Use Diagram* would continue to be fully converted to developed uses after 2010. New growth areas will have a projected population of 103,600 people at buildout, a substantial increase from the 384 people presently living in these areas. This increase is of such a magnitude that recreational use of, and development within, the limited riparian habitat of the San Joaquin River could substantially reduce its value to native wildlife.

Biotic habitats within areas slated for rural development as designated by the *Land Use Diagram* will be substantially modified by projected growth, especially in the foothills of eastern Madera County. The combined population of all foothill communities is expected to increase from a population of approximately 20,000 in 1990 to 125,000 at buildout. The number of dwelling units will increase from approximately 9,000 to 49,000. Habitat losses will result from the construction of 40,000 additional dwelling units, the infrastructure required for a large population, and ancillary commercial facilities. Habitat losses will be substantial, habitats of many special status species are likely to have been converted to developed uses, and movement corridors for resident and migratory wildlife are likely to have been so developed in the Oakhurst Basin, that they no longer can function as such.

The continuing conversion of native habitats to agricultural lands will result in the incremental depletion of native wildlife populations. Some special status plants and animals associated with alkali desert scrub and northern hardpan vernal pools are likely to be extirpated from the county. Increased recreational use of Madera County will continue to grow as the county's population grows. The expected increase in recreational use of native habitats will further deplete populations of wildlife species intolerant of nearby human activities.

7.6 AIR QUALITY

ENVIRONMENTAL SETTING

Madera County falls within the eight-county San Joaquin Valley Air Basin (Kern, Fresno, Tulare, Kings, Merced, Stanislaus, San Joaquin, and Madera Counties). This air basin is a well-defined climatic region, primarily because of the topographic barriers which form distinct boundaries on three sides of the basin. Air quality in Madera County and the San Joaquin Valley Air Basin is described in Chapter 6 of the *Background Report* and is summarized below. Because air quality concerns are regional in nature, this section discusses the implications for the entire county rather than by geographic analysis area.

The San Joaquin Valley Air Pollution Control District (SJVUAPCD) and California Air Resources Board operate a network of air quality monitoring sites within the San Joaquin Valley Air Basin, including one

in the city of Madera measuring ozone and PM-10. The standards for both ozone and PM-10 are exceeded at the Madera site.

The failure to meet the state and federal air quality standards in Madera County has required the preparation of regional air quality plans. The federal Clean Air Act Amendments of 1990 require that non-attainment plans be prepared and submitted to the U. S. Environmental Protection Agency for ozone and PM-10. The San Joaquin Valley Unified Air Pollution Control District has recently adopted federal nonattainment plans for PM-10 and carbon monoxide; the federal non-attainment plan for ozone is due in November 1994. (SJVUAPCD 1991, 1992a)

The California Clean Air Act, enacted in 1988, requires local air pollution control districts to prepare air quality attainment plans for ozone and carbon monoxide. Generally, these plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods. The Act also grants air districts explicit statutory authority to adopt indirect source regulations and transportation control measures, including measures to encourage or require the use of ridesharing, flexible work hours, or other measures which reduce the number or length of vehicle trips.

The state-required nonattainment plan for ozone and carbon monoxide, the *1991 Air Quality Attainment Plan* for the air basin has been approved by the State Air Resources Board (SJVUAPCD 1992b).

The *1991 Air Quality Attainment Plan* for the San Joaquin Valley Air Basin identifies 11 Transportation Control Measures (TCMs) as "reasonably available" in the San Joaquin Valley Air Basin. The following TCMs are included in the Plan:

- Traffic Flow Improvements
- Public Transit
- Passenger Rail Support/Facilities
- Rideshare Program
- Suburban Park-and-Ride Lots
- Bicycling Program
- Trip Reduction Programs
- Telecommunications
- Alternative Work Schedules

The Plan also proposes an indirect source program consisting of three elements:

- Enhanced District CEQA Participation
- Air Quality Element for General Plans
- New and Modified Indirect Source Review

The SJVUAPCD is implementing the first of these indirect source programs, and has prepared Air Quality Element Guidelines for inclusion of air quality considerations in local general plans. No schedule has been established for adoption of a New and Modified Indirect Source Rule.

METHODOLOGY

Assumptions

1. Development will occur consistent with the 2010 development estimates contained in Chapter 2.

Local Air Quality Effects

2. Carbon monoxide is a poisonous gas emitted primarily by automobiles. High concentrations of this pollutant are normally only found near congested roadways. To analyze existing and future concentrations of this pollutant a screening form of the CALINE-4 computer simulation model was applied to seven selected roadway segments within the county. These roadway segments were selected to represent heavily-traveled roadway segments, and the analysis was performed assuming worst-case meteorological conditions. The CALINE-4 program and the assumptions made in its use are described in Appendix D of this *EIR*.

Regional Impacts

3. Development in accordance with the *General Plan* would result in additional emissions from vehicles and stationary sources affecting the regional air basin. New emissions associated with development under the *General Plan* have been estimated using the URBEMIS-3 computer program developed by the California Air Resources Board. This program calculates the total emission resulting from the projected incremental population increase by the year 2010. A description of the URBEMIS-3 model, the assumptions made in its use and the program output are included in Appendix D.
4. Residential uses contain a number of dispersed and intermittent sources of pollutants such as space and water heaters, household paints and solvents, fireplaces and woodstoves, lawn mowers and other equipment. These emissions have been estimated based on the number of residential units. The calculation of these emissions is described in Appendix D.

Thresholds of Significance

The significance of impacts on carbon monoxide was determined by comparing projected concentrations to the applicable state and federal standards. For the purposes of this *EIR*, impacts are considered significant if adoption or implementation of the plan would cause a violation of the air quality standards, or would contribute substantially to an existing or projected air quality violation.

The significance of regional emission increases was determined by comparing project-related emissions to "thresholds of significance" suggested by the San Joaquin Valley Unified Air Pollution Control District. The significance thresholds are 55 pounds per day for ozone precursors (ROG and NO_x), 82 pounds per day for PM-10, and 548 pounds per day for SO_x.

This *EIR* also uses a second regional criterion for significance. Since the regional air quality plan was based on projections of population within the District at the time the attainment plan was prepared, if the general plan assumes population or employment projections exceeding those assumed within the regional non-attainment plan, it is considered to have a significant impact on regional air quality.

IMPLICATIONS OF THE LAND USE DIAGRAM

Adoption of the *Land Use Diagram* would not have a direct air quality effect. Indirectly, however, the *Land Use Diagram* would provide for new growth in population and employment, would in turn affect local and regional air quality.

Local Scale

Development in accordance with the *Land Use Diagram* would alter traffic volumes and change concentrations of localized pollutants such as carbon monoxide near streets and highways. Concentrations of this pollutant are related to the levels of traffic and congestion along streets and at intersections.

The results of the CALINE-4 modeling are shown in Table 7-5. The 1-hour concentrations in Table 7-5 are to be compared to the state 1-hour ambient air quality standards 20 PPM and the federal standard of 35 PPM. The 8-hour concentrations are to be compared to the state and federal standard of 9 PPM.

No violations of either standard are indicated for existing conditions or in the year 2010. In general, carbon monoxide concentrations will gradually decline, despite increased traffic, due to increasingly efficient emission controls on vehicles. Since the locations analyzed are likely to be the location of highest concentrations within Madera County, concentrations near other roadway segments would be lower.

TABLE 7-5
WORST-CASE CARBON MONOXIDE CONCENTRATIONS
25 FEET FROM MAJOR ROADS AND HIGHWAYS
In PPM

Location	Existing (1990)		2010	
	1-Hour	8-Hour	1-Hour	8-Hour
SR 99 north of SR 145	8.8	6.0	7.3	5.0
SR 99 south of Madera	9.2	6.3	7.5	5.1
SR 145 (Madera Ave.) south of Avenue 14	7.8	5.3	7.0	4.8
SR 145 (Yosemite Ave.) west of Lake	8.6	5.8	7.1	4.8
Avenue 14 west of SR 145	8.6	5.8	7.1	4.8
Avenue 12 east of SR 99	6.4	4.4	7.5	5.1
SR 41 north of county line	6.4	4.4	7.5	5.1
<i>Ambient Standard</i>	20.0	9.0	20.0	9.0

Source: Donald Ballanti, Consulting Meteorologist, 1994

Regional Scale

The incremental increase in daily emissions from projected population growth up to 2010 under the *Land Use Diagram* is shown in Table 7-6 for reactive hydrocarbons and oxides of nitrogen (two precursors of ozone), PM-10 and sulfur dioxide. Area-source emissions are also shown.

In addition to the transportation-related emissions shown in Table 7-6, development under the *Land Use Diagram* would result in new industrial emissions within Madera County. The type or amount of such emissions is not predictable, since industrial emissions can vary greatly depending on the processes and materials involved. Any future industrial sources would be subject to the rules and regulations of the San Joaquin Valley Unified Air Pollution Control District, which currently requires major new stationary sources to use BACT (Best Available Control Technology) and provide off-sets.

The incremental increase in regional emissions shown in Table 7-6 would exceed the thresholds of significance recommended by the SJVUAPCD. This would be true for any general plan in an area with a growing population in a nonattainment area, as the SJVUAPCD thresholds were created to apply to specific projects (e.g., industrial plants) while this general plan looks at the cumulative effects of 20 years of development.

TABLE 7-6
REGIONAL EMISSIONS RELATED TO POPULATION GROWTH TO 2010
In Pounds Per Day

Source	ROG	NO _x	SO _x	PM-10
Vehicle traffic	3,100	6,594	654	768
Area sources	1,678	334	108	20
Total	4,778	6,928	763	788
ROG = Reactive organic gases NO _x = Nitrogen oxides SO _x = Sulfur oxides PM-10 = Particulate matter, 10 microns				
Source: Donald Ballanti, Consulting Meteorologist, 1994				

A more important significance threshold would be exceeded if the *General Plan* would result in population growth that substantially exceeds the projections assumed in the *1991 Air Quality Attainment Plan*. This is because the regional air plan has assumed and accounts for an incremental amount of growth within Madera County, and if actual population exceeds this assumed increment additional control measures will be required to attain the ambient air quality standards.

The *1991 Air Quality Attainment Plan* is based on an explicit forecast for population and employment within Madera County over the period 1990 to 2000. The population and employment growth rates assumed for the *General Plan* exceed those of the *1991 Air Quality Attainment Plan*. Assuming steady growth over the forecast period, the *General Plan* forecasts that Madera County population would be about 12,500 greater than that assumed in the *1991 Air Quality Attainment Plan*. The *General Plan* employment projection for 2000 would exceed that in the *1991 Air Quality Attainment Plan* by 9,500.

GENERAL PLAN POLICY RESPONSE

The *Policy Document* includes a comprehensive set of policies and programs, that, if implemented, would mitigate the air quality implications of future growth within Madera County. These are located in various sections of the *Policy Document* and summarized below, as well as in Appendix B of the *Policy Document*.

General Land Use Policies

- 1.A.3. New development should be centered in existing communities and designated new growth areas.*
- 1.A.4. The County shall encourage infill development and development contiguous to existing cities and unincorporated communities to minimize premature conversion of agricultural land and other open space lands.*

New Growth Area Land Use Policies

- 1.B.2. The County shall require that the planning and design of new growth areas carries out the following objectives:*
- a. Concentrate higher-density residential uses and appropriate support services along segments of the transportation system with good road and possible transit connections to the remainder of the region;*
 - b. Support concentrations of medium and high-density residential uses and higher intensities of non-residential uses near existing or future transit stops along trunk lines of major transportation systems;*
 - c. Support the development of integrated mixed-use areas by mixing residential, retail, office, open space, and public uses while making it possible to travel by transit, bicycle, or foot, as well as by automobile; and*
 - d. Provide buffers between residential and incompatible non-residential land uses*

Residential Land Use Policies

- 1.C.2. The County shall promote the development of higher-density residential development along major transportation corridors and transit routes.*
- 1.C.8. The County shall require residential subdivisions to be designed to provide well-connected internal and external street, bikeway, and pedestrian systems.*

Commercial Land Use Policies

- 1.D.3. The County shall promote new commercial development that is designed to encourage and facilitate pedestrian circulation within and between commercial sites and nearby residential areas rather than being designed only to serve vehicular circulation.*

Industrial Land Use and Economic Development Policies

- 1.E.1. The County shall promote new industrial development that has the following characteristics:*
- a. Adequate infrastructure and services;*
 - b. Convenient connections to the regional transportation network, including connections to existing transit and other non-automobile transportation;*
 - c. Sufficient buffering from residential areas to avoid impacts associated with noise, odors and the potential release of hazardous materials;*
 - d. Mitigable environmental impacts; and*
 - e. Minimal adverse effects on scenic routes, recreation areas, and public vistas.*

- 1.E.7. The County shall support the development of primary wage-earner job opportunities in Madera County to provide residents an alternative to commuting to Fresno.*

Jobs-Housing Balance Policies

- 1.F.1. The County shall concentrate most new growth within existing communities and designated new growth areas and shall emphasize infill development, intensified use of existing development, and expanded services so individual communities become more complete, diverse, and balanced.*
- 1.F.2. The County shall designate and encourage the development of employment-generating uses in appropriate areas near existing and designated residential development.*

Interjurisdictional Coordination Policies

- 1.J.1. The County will coordinate land use, infrastructure, and public facility planning with cities in the county, regional planning agencies, neighboring jurisdictions, and state and federal agencies, and shall comment on land use and transportation plans concerning Madera County.*

These land use policies provide for mixed land uses and encourage infill development as means of reducing vehicle trips, support the development of higher densities along transit routes of corridors to encourage transit use, provide for pedestrian/bicycle amenities and paths connecting residential and commercial land uses to encourage non-auto travel, and encourage a jobs-housing balance that offers residents an alternative to long-distance commuting.

Streets and Highways Policies

- 2.A.9. To identify the potential impacts of new development on traffic service levels, the County shall require the preparation of traffic impact analyses for developments determined to be large enough to have potentially significant traffic impacts. The County may allow exceptions to the level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable. In allowing any exception to the standards, the County shall consider the following factors:*
- a. The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.*
 - b. The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.*
 - c. The right-of-way needs and the physical impacts on surrounding properties.*
 - d. The visual aesthetics of the required improvement and its impact on community identity and character.*
 - e. Environmental impacts including air quality and noise impacts.*
 - f. Construction and right-of-way acquisition costs.*
 - g. The impacts on general safety.*
 - h. The impacts of the required construction phasing and traffic maintenance.*
 - i. The impacts on quality of life as perceived by residents.*
- 2.A.10. The County shall strive to meet the level of service standards through a balanced transportation system that provides alternatives to the automobile.*

Transit Policies

- 2.B.1. The County shall work with transit providers to plan and implement additional transit services within and to the county that are timely, cost-effective, and responsive to growth patterns and existing and future transit demand.*
- 2.B.2. The County shall consider the need for future transit right-of-way in reviewing and approving plans for development and roads and highways. Planning for new growth areas should incorporate features to encourage transit and should reserve rights-of-way for future transit access. Rights-of-way may either be exclusive or shared with other vehicles.*
- 2.B.3. The County shall pursue all available sources of funding for capital and operating costs of transit services.*
- 2.B.4. The County shall undertake, as funding permits, and participate in studies of inter-regional recreational transit services to Yosemite.*
- 2.B.5. The County shall consider the transit needs of senior, disabled, low-income, and transit-dependent persons in making decisions regarding transit services and in compliance with the Americans with Disabilities Act.*
- 2.B.6. The County shall encourage the development of facilities for convenient transfers between different transportation systems. (e.g., train-to-bus, bus-to-bus)*
- 2.B.7. The County shall, where appropriate, require new development to provide sheltered public transit stops, with turnouts. The County will also consider development of turnouts in existing developed areas when roadway improvements are made or as deemed necessary for traffic flow and public safety.*
- 2.B.8. The County shall encourage and promote the use of passenger rail.*
- 2.B.9. The County shall support additional connecting services and service additions to rail service in the San Joaquin Valley. To this end, the County will encourage Amtrak to provide direct service from Madera County to the Sacramento and Los Angeles metropolitan areas.*
- 2.B.10. The County shall support the relocation of Amtrak service to the Southern Pacific Railroad lines to more directly serve the cities of Madera and Chowchilla.*
- 2.B.11. The County shall support the relocation of the Amtrak station to the an intermodal station in the city of Madera or other appropriate location.*

Programs

- 2.11. The County shall work with the Madera County Transportation Commission in periodically reviewing and updating its short-range transit plan at least as often as required by State law.*
- 2.12. The County shall continue to participate in planning for and implementing improved passenger rail service to Madera County.*

- 2.13. *The County shall work with Caltrans and other agencies to determine the need for additional or expanded park-and-ride lots and to identify additional sites for such lots.*
- 2.14. *The County shall assist transit planning agencies and transit providers in assessing transit demand and the adequacy of existing services.*
- 2.15. *The County shall work with other agencies to identify and pursue funding for transit.*
- 2.16. *As appropriate, the County shall adopt resolutions in support of local, state, and federal legislation and funding for rail service.*
- 2.17. *The County shall assist and participate in a project study with Caltrans and the Council of Fresno County Governments involving the possibility of using State Highway 41 for public transit purposes (e.g., light rail).*

Transportation Control Measures (TCM) Policies

- 2.C.1. *The County shall promote the use of transportation control measures (TCM) that divert automobile trips to transit, walking, and bicycling, through planning and provision of appropriate facilities and incentives. TCM programs shall include the following:*
 - a. *Passenger rail*
 - b. *Trip reduction programs*
 - c. *Telecommunications*
 - d. *Traffic flow improvements*
 - e. *Park-and-ride lots*
 - f. *Ride-share programs*
 - g. *Parking management*
 - h. *Bicycling programs*
 - i. *Short-range transit*
 - j. *Alternative work schedules*
 - k. *Fleet operators alternative fuel program*
- 2.C.2. *The County shall continue to investigate and promote feasible land use and transportation strategies that will result in fewer automobile trips. To this end, the County shall encourage the concentration of urban development to maximize the feasibility of transit.*
- 2.C.3. *The County shall promote the use, by both the public and private sectors, of TCM programs that increase the average occupancy of vehicles.*
- 2.C.4. *The County shall encourage major traffic generators to develop and implement trip reduction measures.*
- 2.C.5. *The County should require major development projects to prepare transportation studies that address potential use of bicycle routes and facilities and the use of public transportation.*
- 2.C.6. *The County shall work with other responsible agencies, including the Madera County Transportation Commission and the San Joaquin Valley Unified Air Pollution Control District, to develop other measures to reduce vehicular travel demand and meet air quality goals.*

Program

- 2.18. *The County shall investigate the feasibility of various TCM programs in the county and shall identify possible incentives to promote the use of such measures.*

Non-motorized Transportation Policies

- 2.D.1. *The County shall promote the development of a comprehensive and safe system of bicycle routes for short-range commuting and shopping trips and recreational uses. Bikeways should be constructed that will serve the greatest number of users.*
- 2.D.2. *The County shall work with cities and neighboring jurisdictions to coordinate planning and development of the County's bikeways and multi-purpose trails with those of neighboring jurisdictions.*
- 2.D.3. *New bikeways should be linked with other bikeways, bicycle rest stops, and parks to provide safe and continuous routes.*
- 2.D.4. *The County shall encourage the provision for bicycle routes along state highways. Where this occurs, automobile and bicycle facilities should be separated.*
- 2.D.5. *The County shall pursue all available sources of funding for the development and improvement of trails for non-motorized transportation (bikeways, pedestrian, and equestrian).*
- 2.D.6. *The County shall promote non-motorized travel (bikeways, pedestrian, and equestrian) through appropriate facilities, programs, and information, including through the school system and local media.*
- 2.D.7. *The County shall require developers to finance and install pedestrian walkways, equestrian trails, and multi-purpose paths in new development, as appropriate.*
- 2.D.8. *The County shall support the development of parking areas near access to hiking and equestrian trails.*

Programs

- 2.19. *The County shall prepare a Bicycle Master Plan jointly with the City of Madera consistent with the City and County General Plans.*
- 2.20. *The County shall require that bikeways recommended in the Bicycle Master Plan be developed when roadway projects are constructed and when street frontage improvements are required of new development.*
- 2.21. *The County shall develop and adopt standards for bicycle, pedestrian, and equestrian facilities. These standards should vary by types of land use and terrain. Until such standards are adopted, the County shall continue to use state standards as guidelines for construction of bicycle lanes and bicycle trails.*

New Growth Area Transportation Policies

- 2.G.1 The County shall require that land use form and transportation systems in designated new growth areas be designed to provide residents and employees with the opportunity to accomplish many of their trips within the new growth area by walking, bicycling, and using transit.*

These policies support transit incentives and expansion of transit options, encourage park-and-ride programs, promote the use of Transportation Control Measures (TCMs) including all those included in the 1991 Air Quality Attainment Plan, and support expansion of non-motorized travel.

Air Quality--General Policies

- 5.J.1. The County shall cooperate with other agencies to develop a consistent and effective approach to air quality planning and management. To this end, the County shall coordinate with other jurisdictions in the San Joaquin Valley to establish parallel air quality programs and implementation measures.*
- 5.J.2. The County shall support the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) in its development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds, and rules to more adequately address the air quality impacts of new development.*
- 5.J.3. The County shall solicit and consider comments from local and regional agencies on proposed projects that may affect regional air quality.*
- 5.J.4. The County shall submit development proposals to the adopted SJVUAPCD for review and comment in compliance with California Environmental Quality Act (CEQA) prior to consideration by the appropriate decision-making body.*
- 5.J.5. The County shall require new development projects that exceed SJVUAPCD emission thresholds to submit an air quality analysis for review and approval. Based on this analysis, the County shall require appropriate mitigation measures consistent with the SJVUAPCD's 1991 Air Quality Attainment Plan (or updated edition).*
- 5.J.6. The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of countywide indirect and areawide source programs and transportation control measures (TCM) programs. Project review shall also address energy-efficient building and site designs and proper storage, use, and disposal of hazardous materials.*
- 5.J.7. The County shall encourage development to be located and designed to minimize direct and indirect air pollutants.*
- 5.J.8. In reviewing project applications, the County shall consider alternatives or amendments that reduce emissions of air pollutants.*
- 5.J.9. The County shall support and participate in the air quality education programs of the SJVUAPCD.*

- 5.J.10 *The County should publicize the requirements of the San Joaquin Valley Unified Air Pollution Control District's Regulation VIII concerning control of PM-10 emissions.*
- 5.J.11 *The County shall require developers to pave all access roads, driveways, and parking areas serving new commercial and industrial development.*
- 5.J.12 *The County shall reduce PM-10 emissions from County-maintained roads to the maximum extent feasible.*

Programs

- 5.10. *The County shall coordinate with other local, regional, and state agencies, including the SJVUAPCD and the California Air Resources Board (ARB), in incorporating regional and state clean air plans into County planning and project review procedures. The County shall also cooperate with the SJVUAPCD and ARB in the following efforts:*
- a. Enforcing the provision of the California and Federal Clean Air Acts, state and regional policies, and established standards for air quality;*
 - b. Establishing monitoring stations to accurately determine the status of carbon monoxide, ozone, nitrogen dioxide, hydrocarbon, and PM₁₀ concentrations;*
 - c. Developing consistent procedures and thresholds for evaluating both project-specific and cumulative air quality impacts for proposed projects.*
- 5.11. *The County shall encourage the SJVUAPCD to revise its Air Quality Attainment Plan (AQAP) as required every three years. For the 1994 AQAP, the County shall ensure that the SJVUAPCD revises its AQAP to reflect the new estimates of population and vehicle travel associated with the updated General Plan. The 1994 AQAP should incorporate additional air quality programs that are not currently in the AQAP to compensate for the increased population and emissions associated with anticipated development.*
- 5.12. *The County should ensure that the U.S. Environmental Protection Agency (EPA), in the preparation of the Federal Implementation Plan (FIP) for the San Joaquin Valley Air Basin, uses the General Plan population projections associated with the Madera County portion of the San Joaquin Valley Air Basin. The County should also ensure that the SJVUAPCD uses the General Plan population projections associated with the Madera County portion of the San Joaquin Valley Air Basin in the preparation of the State Implementation Plan (SIP).*

Air Quality—Transportation/Circulation Policies

- 5.K.1. *The County shall require new development to be planned to result in smooth flowing traffic conditions for major roadways. This includes traffic signals and traffic signal coordination, parallel roadways, and intra- and inter-neighborhood connections where significant reductions in overall emissions can be achieved.*
- 5.K.2 *The County shall continue and, where appropriate, expand the use of synchronized traffic signals on roadways susceptible to emissions improvement through approach control.*

- 5.K.3. *The County shall encourage the use of alternative modes of transportation by incorporating public transit, bicycle, and pedestrian modes in County transportation planning and by requiring new development to provide adequate pedestrian and bikeway facilities.*
- 5.K.4. *The County shall endeavor to secure adequate funding for transit services so that transit is a viable transportation alternative. New development shall pay its fair share of the cost of transit equipment and facilities required to serve new projects.*
- 5.K.5. *The County shall require large new developments to dedicate land for and construct appropriate improvements for suitably-located park-and-ride lots subject to the requirements of California Code Section 66000 et seq. (AB 1600).*

Air Quality—Wood-burning Sources Policies

- 5.L.1. *The County shall encourage developers to limit fireplace installations in new developments.*
- 5.L.2. *The County shall encourage the installation of low emitting, EPA-certified fireplace inserts and woodstoves, pellet stoves, or natural gas fireplaces in new developments as an alternative to conventional woodburning fireplaces and appliances.*

These policies call for County coordination with national, state, and local air quality agencies, encourage the use of TCMs and air quality planning within the environmental review process to mitigate the impacts of individual projects, and ensure that the new estimates of population and employment associated with the updated General Plan are reflected and accounted for in the next update of the regional *Air Quality Attainment Plan* and federal-mandated air quality plans.

IMPACTS

Growth in population and employment associated with development under the *General Plan* would result in a substantial increase in regional air pollutants. The incremental increase in regional emissions would exceed the San Joaquin Valley Unified Air Pollution Control District thresholds of significance. The *General Plan* forecasts population and employment for the County exceeding that accounted for in the 1991 *Air Quality Attainment Plan*.

The *General Plan* policies constitute a comprehensive strategy for reducing the air quality impacts of development and transportation systems. The *General Plan* policies recognize the significance of inconsistency with the population and employment projections implicit in regional air quality plans, and ameliorate the problem by ensuring that the next update of regional air quality plans will reflect the higher projections. This does require, however, the development of additional control measures for the region, with associated costs, in order to offset the effects of the higher population/employment projections.

Application of all *General Plan* air quality policies would reduce the impact of future development in Madera County, but not to a level than would be insignificant. The additional growth forecast within the county can be expected to delay attainment of the air quality standards within the air basin. Project impacts on regional air quality would remain significant and unavoidable even after implementation of all *General Plan* policies regarding air quality.

MITIGATION MEASURES

The *General Plan* policies address in a comprehensive way emissions related to land use and transportation. There are no additional measures that would feasibly mitigate the air quality impacts of the *General Plan* to a less-than-significant level.

References

San Joaquin Valley Unified Air Pollution Control District, 1991: San Joaquin Valley Unified Air Pollution Control District PM-10 Nonattainment Area Plan.

San Joaquin Valley Unified Air Pollution Control District, 1992a: Federal 1992 Air Quality Attainment Plan for Carbon Monoxide.

San Joaquin Valley Unified Air Pollution Control District, 1992b: 1991 Air Quality Attainment Plan.

Persons Contacted

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CHAPTER 8

HEALTH AND SAFETY

This chapter assesses the potential health and safety-related implications of development under the *General Plan*. The issues addressed in the chapter are geologic and seismic hazards, flood hazards, fire hazards, hazardous waste, and noise. The effects of these hazards tend to be widespread and difficult to isolate to small areas. For the purposes of describing the setting and potential impacts of these hazards, the geographic analysis areas have been grouped into two larger subregions of the county:

Valley	Includes the valley floor up to 500 feet in elevation. Includes all of the West/Agriculture, Chowchilla/Fairmead, and Madera areas, the western two-thirds of the South 41 Corridor area, and the westernmost part of the Raymond/Central area.
Foothills/ Mountains	Includes the eastern part of the South 41 Corridor area, the North 41 Corridor area, including Yosemite Lakes Park, Coarsegold, Oakhurst, Ahwahnee, and Bass Lake, the eastern part of the Raymond/Central area, and the North Fork/Millerton and East areas.

8.1 SEISMIC AND GEOLOGIC HAZARDS

This section describes impacts of seismic and geologic hazards on development estimated for the year 2010 under the *General Plan*. Specifically, this section focuses on how development at the intensities indicated by the *Plan Land Use Diagram* could be affected by potential seismically-induced surface rupture, ground shaking, ground failure, slope instability, liquefaction, and volcanic eruptions. Chapter 7 of the *Background Report* describes seismic and geologic conditions in Madera County. As described in the *Background Report*, seiches (a seismically-induced wave in a reservoir, lake, or harbor) are not considered to be a safety concern in Madera County, based on historic experience. The risk of subsidence in Madera County is also considered to be very low due to the county's geologic conditions. Hazards associated with seiches and subsidence are therefore not discussed in this section.

ENVIRONMENTAL SETTING

Seismic hazards and conditions in Madera County are described in Chapter 7 of the *Background Report*. This section focuses on Madera County's major physiographic and geologic provinces, the Valley and the Foothills/Mountains, and transitional Foothill Area. The setting is summarized by each geologic province below.

Valley

The central and western parts of the county are part of the Central Valley province, underlain by marine and non-marine sedimentary rocks. It is basically a flat, alluvial plain, with soil consisting of material shed by the uplifting of the mountains, as well as San Joaquin River alluvium in the western valley. Consolidated alluvium occurs at depths of 500 feet near the city of Madera, to approximately 20,000 feet in the western county.

The San Andreas Fault lies to the west of Madera County, approximately 45 miles from the county line. This fault has a long history of activity, and is thus the primary concern in determining seismic activity

within the county. Activity along the fault varies along its span from the Gulf of California to Cape Mendocino. The western tip of Madera County lies within the "Central California Active Area," where large numbers of earthquakes have originated.

In addition, the Clovis Fault is considered to be active within quaternary time (within the past two million years), and is thus classified as "potentially active," in spite of the fact that it has no historic evidence of activity. This fault lies approximately six miles south of the Madera County line, in Fresno County. Activity along this fault could potentially generate more seismic activity in Madera County than the San Andreas or Owens Valley fault systems. In particular, a strong earthquake on the Clovis fault could affect southern Madera County. However, because of the lack of historic activity along the Clovis fault, there is inadequate evidence for assessing maximum earthquake impacts.

Groundshaking

The valley portion of Madera County is located on alluvium deposits, which tend to experience greater groundshaking intensities than areas located on hard rock. Structures located in the valley, therefore, tend to suffer greater damage from groundshaking than those located in the foothill and mountain areas.

Liquefaction

Areas most prone to liquefaction are those which are water-saturated (specifically where the water table is less than 30 feet below the surface), and consist of relatively uniform sands that are of loose to medium density. Of particular concern in terms of developed and developing areas are fill areas that have been poorly consolidated. Although there are areas of the Central Valley in Madera County where the water table is at 30 feet or less below the surface, soil types in the area are not conducive to liquefaction because they are either too coarse in texture or too high in clay content. In other words, the soil types mitigate against the potential for liquefaction. For the same reasons, subsidence has not been a safety problem in Madera County.

Slope Instability

Because of its flat topography, the only risk of landsliding in the Central Valley area of Madera County is along the steep banks of the rivers that pass through the valley, and that risk is very low.

Volcanic Hazards

Volcanic eruptions are not safety concerns in the Central Valley part of Madera County, due to its distance from volcanoes in Mono County.

Foothills/Mountains

The foothill area of the county is essentially a transition zone, containing old alluvial soils that have been dissected by the west-flowing rivers and streams which carry runoff from the Sierra Nevadas. This gently rolling topography is broken in many areas by outcroppings of bedrock. Since soils in the foothills are generally quite dense and compact, structures are relatively safe from damage by groundshaking resulting from seismic activity. Likewise, the soil underlying the foothills results in low risk conditions for damage resulting from liquefaction or landslides.

The Mountain area, or the Sierra Nevada physiographic province, in the northeastern portion of the county is underlain by metamorphic and igneous rock. It consists mainly of homogenous types of granitic rocks, with several islands of older metamorphic rock.

Faults

Most of the seismic hazards in Madera County result from movement along faults associated with the creation of the Sierra Nevada and Coast Ranges. The Sierra Nevadas, partly within Madera County, are the result of movement of tectonic plates which resulted in the creation of the mountain range. The Coast Ranges on the west side of the Central Valley are also a result of these forces, and continued movement of Pacific and North American tectonic plates continues to elevate the ranges.

According to the State Division of Mines and Geology (DMG), there are no active or potentially active faults of major historic significance within Madera County; as a result, there are no Alquist-Priolo Special Studies Zones for surface faulting or fault creep within the county. Within the larger region, however, the Owens Valley Fault Group, located on the eastern base of the Sierra Nevada Range, is one of the principal sources of potential seismic activity within Madera County. The Owens Valley Fault Group is a complex system containing both active and potentially active faults approximately 80 miles east of the Madera County line, in Inyo County.

Groundshaking

Because the mountainous areas of the county are located on hard rock, structures located in the mountains tend to suffer less damage from groundshaking than those located in the Central Valley. There are, however, alluvium valleys and weathered or decomposed zones scattered throughout the mountainous part of the county which could also experience strong intensities than the surrounding solid rock areas.

Liquefaction

The mountainous area of Madera County is underlain by rock and therefore not subject to liquefaction.

Slope Instability

The mountainous part of the county contains several areas which have been classified as having moderate risk of landsliding, generally located on the west side of State Route 49 west of Oakhurst and around Coarsegold, and east of Millerton Lake and around O'Neals. Figure 7-1 of the *Background Report* indicates the general locations of landslide risk.

Volcanic Hazards

The nearest volcanoes lie in Mono County, in the Mammoth Lakes/Long Valley area, located northeast of Madera County. According to DMG, there most serious risk to Madera County from a volcanic eruption in the Mammoth Lakes area would be ash deposition.

METHODOLOGY

This section describes the assumptions and thresholds of significance developed to assess impacts resulting from development estimated for the year 2010 under the *General Plan*. The analysis was conducted qualitatively, by comparing areas with known and anticipated seismic and geological hazards with the areas proposed for development under the *General Plan*.

Assumptions

1. The potential for seismic activity, and related groundshaking, surface rupture, and liquefaction was assumed to be greater in the western part of the county, based on information contained in the *Background Report*.
2. The potential for landsliding is greater in the mountain area of the county, based on information contained in the *Background Report*.
3. New construction will be subject to state and local seismic safety building standards.
4. In the event of an earthquake, the County will respond according to the 1994 *Multi-Hazard Functional Plan* or an update of the plan.

Thresholds of Significance

According to Appendix G of the *CEQA Guidelines*, a project will normally have a significant effect if it would expose people or structures to major geologic hazards or interfere with emergency response plans or emergency evacuation plans.

For purposes of this EIR, impacts are considered significant if adoption or implementation of the plan could result in unacceptable risk to life or property from seismic or geologic hazards in the area or would conflict with the County emergency response plans (*Multi-Hazard Functional Plan*) for earthquake response.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

Valley

The western part of Madera County is potentially subject to seismic shaking related to the San Andreas and Clovis Faults, and structures located on the alluvial soils of the valley would be susceptible to damage if such shaking were significant. The distance from the San Andreas Fault Zone and the lack of historic activity along the Clovis Fault, however, suggests that the risk of damage from geologic and seismic hazards is limited.

The County's *Multi-Hazard Functional Plan* for responding to disasters is based on existing population and facilities. Substantial growth is projected in this area in and around the city of Madera, and more limited growth in and around Chowchilla. Substantial growth is also projected for the South 41 Corridor area, including continued development in the Bonadelle Ranchos/Madera Ranchos area and in the three new growth areas. As of mid-1995, the County is in the process of updating its emergency response plan to address this issue.

Foothills/Mountains

Potential seismic and geological hazards in the eastern part of Madera County are limited to a moderate risk of landslides. Underlying bedrock minimizes the risks from seismic activity. No development is proposed in the far eastern area that could be affected by the unlikely event of a volcanic eruption. Most of the easternmost part of the county is under federal ownership and is not designated for development on the *Land Use Diagram*. Some areas around Coarsegold and Ahwahnee (within the North 41 Corridor geographic analysis area) at moderate risk of landslides are designated for rural residential development. A small area in O'Neals (in the North Fork/Millerton area) is designated for rural residential development is in an area at moderate risk of landslide.

The County's *Multi-Hazard Functional Plan* for responding to disasters is based on existing population and facilities. Substantial new growth is projected in this area, primarily in the North 41 Corridor Area. The area has limited access to major urban centers in the event of disruption to State Route 41. As of mid-1995, the County is in the process of updating its emergency response plan to address this issue.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes policies and implementation measures to address seismic and geologic impacts to development. The following policies and programs address the implications of the *Land Use Diagram* on areas with seismic and geologic risk.

General Land Use Policies

1.A.5. The County shall permit only low-intensity forms of development in areas with sensitive environmental resources or where natural or human-caused hazards are likely to pose a significant threat to health, safety, or property.

Visual and Scenic Resources Policies

1.H.2. The County shall require that new development incorporates sound soil conservation practices and minimizes land alterations. Land alterations should comply with the following guidelines:

- a. Limit cuts and fills;*
- b. Limit grading to the smallest practical area of land;*
- c. Limit land exposure to the shortest practical amount of time;*
- d. Replant graded areas to ensure establishment of plant cover before the next rainy season;*
- e. Create grading contours that blend with the natural contours on site or look like contours that would naturally occur; and*
- f. Prohibit overgrazing.*

1.H.3. The County shall require that new development on hillsides employ safe design, construction, and maintenance techniques that:

- a. Preserve and enhance the hillsides;*
- b. Ensure that development near or on portions of hillsides do not cause or worsen natural hazards such as erosion, sedimentation, fire, or water quality concerns;*
- c. Include erosion and sediment control measures including temporary vegetation sufficient to stabilize disturbed areas;*

- d. Minimize risk to life and property from slope failure, landslides, and flooding; and
- e. Maintain the character and visual quality of the hillside.

Open Space for the Preservation of Natural Resources Policies

- 5.H.2. *The County shall require that new development be designed and constructed to preserve the following types of areas and features as open space to the maximum extent feasible:*
- a. *High erosion hazard areas;*
 - b. *Scenic and trail corridors;*
 - c. *Streams and streamside vegetation;*
 - d. *Wetlands;*
 - e. *Other significant stands of vegetation;*
 - f. *Wildlife corridors; and*
 - g. *Any areas of special ecological significance.*

Seismic and Geologic Hazards Policies

- 6.A.1. *The County shall require the preparation of soils engineering and geologic-seismic analysis prior to permitting development in areas prone to geologic or seismic hazards (i.e., groundshaking, landslides, liquefaction, critically expansive soils).*
- 6.A.2. *In landslide hazard areas, the County shall prohibit avoidable alteration of land in a manner that could increase the hazard, including concentration of water through drainage, irrigation, or septic systems; removal of vegetative cover; and steepening of slopes and undercutting the bases of slopes. Areas of known landslides should be designated for open space uses.*
- 6.A.3. *The County shall limit development in areas of steep or unstable slopes to minimize hazards from landslides. Development will be prohibited in areas with slopes of 30 percent or more unless it can be demonstrated by a registered engineer or registered engineering geologist that such development will not present a public safety hazard.*
- 6.A.4. *The County shall continue to support scientific geologic investigations that refine, enlarge, and improve the body of knowledge on active fault zones, unstable areas, severe groundshaking, and other hazardous conditions in Madera County.*

Programs

- 6.1. *The County shall continue to enforce provisions of the Uniform Building Code that address seismic concerns.*

Emergency Management Policies

- 6.E.a. *The County shall continue to maintain, periodically update, and test the effectiveness of its Multi-Hazard Functional Plan for emergency response.*
- 6.E.b. *The County shall coordinate emergency preparedness, response, recovery, and mitigation activities with special districts, service agencies, voluntary organizations, cities within the county, surrounding cities and counties, and state and federal agencies.*

- 6.E.c. *The County shall ensure that the siting of critical emergency response facilities such as hospitals, fire stations, sheriff's offices and substations, dispatch centers, emergency operations centers, and other emergency service facilities and utilities have minimal exposure to flooding, seismic and geological effects, fire, and explosions.*

Programs

- 6.8. *The County shall develop and maintain agreements with other local, state, and federal agencies to ensure coordinated disaster response.*
- 6.9. *The County shall periodically conduct emergency exercises to evaluate the County's emergency planning, operations, and training.*

Public Safety and Emergency Management Policies

- 6.F.a. *The County shall locate new public facilities necessary for emergency response, health care, and other critical functions outside areas subject to natural hazards.*
- 6.F.b. *The County shall, within its authority, ensure that emergency dispatch centers, emergency operations centers, communications systems, vital utilities, and other essential public facilities necessary for the continuity of government be designed in a manner that will allow them to remain operational during and following an earthquake or other disaster.*

Programs

- 6.10. *The County shall conduct an evaluation of County-owned facilities and public utility systems for susceptibility to geological or seismic hazards.*

These policies and programs promote increased knowledge of potential seismic and geological problems and prohibit activity that would increase the risk of damage associated with such problems, including construction standards to withstand moderate seismic activity and limitations to development on steep slopes and unstable soils. They further provide for maintaining, updating, and testing of the County's emergency response plans and techniques.

IMPACTS

With full implementation of the policies and programs of the *General Plan*, there would be no significant adverse seismic and geologic impacts to development resulting from development under the *Plan*. Seismic and geologic impacts are, therefore, considered less-than-significant.

MITIGATION MEASURES

No additional mitigation measures are required beyond the policies and programs of the *General Plan*.

8.2 FLOODING AND DAM FAILURE INUNDATION

This section describes potential health and safety impacts from flooding and dam failure inundation hazards from development estimated for the year 2010 under the *General Plan*. Flood events, dam failures, and resulting inundation are analyzed to determine how development at the intensities permitted under the *Land Use Diagram* would be affected by these hazards.

ENVIRONMENTAL SETTING

Chapter 7 of the *Background Report* includes a description of flooding and dam inundation hazards in Madera County. This is summarized by subregion below.

There are four major rivers in Madera County: the Chowchilla River, which forms a portion of the northwestern boundary of the county; the Fresno River, which flows through the central portion of the county; the San Joaquin River, which forms most of the southern boundary of the county; and the Merced River, which is in the northeast portion of the county, above 5,000 feet. In addition, there are several creeks in the foothills and mountainous areas of the county.

Flooding in Madera County can occur as a result of heavy rains, dam failure, excessive snowmelt and runoff, levee failure, and localized drainage problems.

Valley

Flooding

According to a 1987 *Flood Insurance Rate Study* conducted by the Federal Emergency Management Agency (FEMA), the principal potential flooding problems in the Valley area of Madera County are in the low lying area east of Highway 99, which lies within a 100-year floodplain. The Madera Ranchos are partially subject to a 100-year flood. In addition, there are some potential flooding problems along Cottonwood, Root, Dry, and Schmidt Creeks, and the Schmidt Creek Tributary, all of which have perennial flow, and poorly defined channels that are subject to flooding. Some areas along the Chowchilla, Madera, and San Joaquin Rivers have the potential for flooding; the construction of Buchanan, Hidden, and Friant Dams, as well as levee improvements along the sloughs and rivers, have, however, eliminated major flooding problems along these major rivers. Much of the area on the far west side of the county along the San Joaquin River is within the 100-year flood plain.

Dam Failure Inundation

As indicated above, there are three major dams that would flood portions of the county in the event of their failure: Hidden Lake Dam, Buchanan Dam, and Friant Dam. Figure 7-3 of the *Background Report* shows that areas that would be inundated in the event of failure of any of these dams. As the figure indicates, in the event of the failure of Buchanan Dam, the entire City of Chowchilla would be among the areas flooded. Similarly, the City of Madera would be flooded if Hidden Dam were to fail. The Lake Madera Country Estates and Valley Lake Ranchos subdivisions (within the Raymond/Central area) are also located in the inundation area of Hidden Dam. The *San Joaquin River Area Reconnaissance Study*, conducted by Madera and Fresno Counties in 1986, indicates that should Friant Dam fail, the "entire riverbottom, bluff to bluff, would be inundated on a worst case basis at depths up to 50 feet." This would affect the southern portion of Madera County, west of Highway 41. Since all of these dams

were constructed to withstand the effects of an earthquake, it is extremely unlikely that any would fail.

Foothills/Mountains

Flooding

As Figure 7-2 of the *Background Report* shows, the principal flood problems in the Foothill Area of Madera County, as identified in FEMA's 1987 *Flood Insurance Study*, lie along the Chowchilla, Fresno, and San Joaquin Rivers and Fine Gold Creek. The construction of Buchanan, Hidden, and Friant Dams, as well as levee improvements along the sloughs and rivers, have eliminated major flooding problems in these areas, but the potential for localized flooding problems remains. Farther to the east, none of the mountain areas of the eastern county have been defined as lying within a 100-year floodplain. The primary flood problem in the mountain area of the county is the North Fork of Willow Creek. The creek runs through the middle of the community of North Fork and floods in wet years. If the dam at Bass Lake were to fail, this situation would be exacerbated.

Dam Failure Inundation

The Foothill area of the county contains both of Madera County's major dams: Hidden Dam on the Fresno River holds 90,000 acre feet, and Buchanan Dam Reservoir on the Chowchilla River holds 150,000 acre feet. In addition, Friant Dam, on the San Joaquin River, is located in Fresno County immediately south of the county line, and holds 520,000 acre feet. Because of their location, all three dams have the potential to inundate parts of the Foothill area in the event of failure. Figure 7-3 of the *Background Report* shows that areas that would be inundated in the event of such failure. Since all of these dams were constructed to withstand the effects of an earthquake, it is extremely unlikely that any would fail. Farther east, the only potential for dam failure inundation in the mountains are related to the area's several smaller dams that would flood mainly small, localized areas in the event of their failure.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess impacts resulting development that would be expected to occur by year 2010 under the *General Plan*. The analysis was conducted qualitatively, by considering known and anticipated flooding and dam inundation hazards indicated in the *Background Report* in relationship to the areas designated for development on the *Land Use Diagram*.

Assumptions

1. Flooding, dam failure, and inundation impacts are assumed to be generally limited to defined floodways and floodplains along county watercourses and inundation is limited to areas downstream from existing dams and dikes. The analysis generally does not address impacts associated with flooding less frequent than the 100-year flood event, or more frequent localized flooding.
2. Some existing suburban and rural residences located in unincorporated areas, and urban residences located in incorporated cities may continue to be exposed to existing flooding and dam inundation hazards. This impact is not considered an impact of the Madera County General Plan.

3. In the event of major flooding or dam failure, the County will respond according to the 1994 *Multi-Hazard Functional Plan* or an update of the plan.

Thresholds of Significance

According to Appendix G of the *CEQA Guidelines*, a project will normally have a significant environmental effect if it will cause substantial flooding or interfere with emergency response plans or emergency evacuation plans.

For the purposes of this EIR, implementation of the plan would have a significant effect if would conflict with the County emergency response plans (*Multi-Hazard Functional Plan*) for major flooding or dam inundation or increase the risk to life or property from development in the designated 100-year flood plain. Drainage issues area discussed separately in Chapter 5 of this report.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

Valley

Flooding

Development under the *Land Use Diagram* would have the highest potential for exposure to flooding hazards in the western part of the county. Most of the area subject to 100-year flooding is located in the far western portion of the county and is designated for agricultural uses. Future development could occur in the Madera Ranchos subdivisions and the Madera Acres area north of the city of Madera.

Dam Inundation

The number of people and value of property exposed to flooding resulting from dam failure inundation in this area would increase. Much of this growth would occur in the cities of Madera and Chowchilla. Proposed new development in the Rio Mesa and Gunner Ranch West areas, however, would expose persons and property to flooding in the unlikely event of the failure of Friant Dam.

Foothills/Mountains

Flooding

The increased flood risk related to development in identified floodplains in the Foothill area of the county is very limited because so little of the area is within such floodplains. Further development in North Fork could expose more people to localized flooding along the North Fork of Willow Creek.

Dam Inundation

The risk associated with failure of the major dams and consequent inundation areas is also limited, as development is not proposed within the dam inundation areas.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes the following policies and implementation measures to reduce flooding and dam inundation hazards to development under the *Land Use Diagram*.

Storm Drainage and Flood Control Policies

- 3.E.1. The County shall provide for expansion and development of storm drainage systems to meet the needs of existing and planned development.*
- 3.E.2. The County shall require that new development provide protection from the 100-year flood at a minimum.*
- 3.E.3. The County shall continue to implement floodplain zoning and undertake other actions required to comply with state floodplain requirements and maintain County eligibility under the Federal Flood Insurance Program.*
- 3.E.4. The County shall require new development to pay its fair share of storm drainage and flood control improvements.*
- 3.E.5. The County shall encourage project designs that minimize drainage concentrations and impervious coverage and maintenance of natural site drainage conditions.*
- 3.E.6. Future drainage system discharges shall comply with applicable state and federal pollutant discharge requirements.*

Programs

- 3.6. The County shall prepare and adopt ordinances and programs to implement required actions under state and federal stormwater quality programs.*

Flood Hazard Policies

- 6.B.1. The County shall require flood-proofing of structures in areas subject to flooding.*
- 6.B.2. The County shall prohibit construction of facilities essential for emergencies and large public assembly in 100-year floodplain, unless the structure and access to the structure are free from flood inundation.*
- 6.B.3. The County shall restrict uses in designated floodways to those tolerant of occasional flooding and that do not restrict or alter flow of flood waters. Such uses may include agriculture, outdoor recreation, mineral extraction, and natural resource areas.*
- 6.B.4. The County shall require that all development within areas subject to 100-year floods be designed and constructed in a manner so as not to divert floodwater onto adjacent property or to increase flood hazards to other areas.*
- 6.B.6. The County shall require that flood management programs avoid alteration of waterways and adjacent area, whenever possible.*

Programs

- 6.3. The County shall continue to maintain flood hazard maps and other relevant floodplain data and shall revise or update this information as new information becomes available. In the County's*

review of applications for building permits and discretionary permits and proposals for capital improvement projects, the County will determine whether the proposed project is within the 100-year floodplain based on these maps.

Emergency Management Policies

- 6.E.1 The County shall continue to maintain, periodically update, and test the effectiveness of its Multi-Hazard Functional Plan for emergency response.*
- 6.E.2 The County shall coordinate emergency preparedness, response, recovery, and mitigation activities with special districts, service agencies, voluntary organizations, cities within the county, surrounding cities and counties, and state and federal agencies.*
- 6.E.c. The County shall ensure that the siting of critical emergency response facilities such as hospitals, fire stations, sheriff's offices and substations, dispatch centers, emergency operations centers, and other emergency service facilities and utilities have minimal exposure to flooding, seismic and geological effects, fire, and explosions.*

Programs

- 6.8. The County shall development and maintain agreements with other local, state, and federal agencies to ensure coordinated disaster response.*
- 6.9. The County shall conduct periodic emergency exercises to evaluate the County's emergency planning, operations, and training.*

Public Safety and Emergency Management Facilities Policy

- 6.F.a. The County shall locate new public facilities necessary for emergency response, health care, and other critical functions outside areas subject to natural hazards.*

Programs

- 6.10. The County shall conduct an evaluation of County-owned safety and emergency management facilities and public utility systems for susceptibility to damage due to flood inundation or geological or seismic hazards, and shall analyze the extent of acceptable risk of the effects of such flooding or ground failure.*

These policies and programs ensure that new development is constructed so as not to create unacceptable flood flows. Any development within the 100-year floodplain must be designed and constructed for resistance to flooding and so as not to divert floodwater onto adjacent properties. The policies and programs further provide for the periodic maintenance, update, and testing of the emergency response plans and procedures, and the location of critical facilities in locations away from potential hazards.

IMPACTS

All potential flooding and dam inundation impacts are considered less-than-significant if the policies and programs of the *General Plan* are fully implemented.

MITIGATION MEASURES

No additional mitigation measures are required beyond the policies and programs of the *General Plan*.

8.3 WILDLAND AND URBAN FIRE POTENTIAL

This section describes health and safety impacts associated with increased wildland and urban fire hazards resulting from development estimated for the year 2010 under the *General Plan*. Specifically, this section focuses on how development at the intensities indicated by the *Land Use Diagram* could be subject to increased fire hazards.

ENVIRONMENTAL SETTING

Wildland and urban fire hazards in Madera County are described in Chapter 7 of the *Background Report*. Both wildland and urban (structural) fire hazards in Madera County create the potential for injury, loss of life, and property damage. Urban fires primarily involve the uncontrolled burning of residential, commercial, and industrial structures due to man-made causes. Wildland fires affect grass, forest, and brushlands, as well as any structures on these lands, and may result from either man-made and natural factors. The type and amount of fuels, topography, and climate are the primary factors influencing the degree of fire risk. Fire hazards are summarized by subregion of the county below.

Valley

Wildland fire hazards are very limited in the Valley area of Madera County, and, as with the rest of the unincorporated county, urban fire hazards are limited to potential problems with structures built before 1987. Most of the structural hazards in the county are concentrated within the cities of Madera and Chowchilla.

With the exception of the Madera Ranchos/Bonadelle Ranchos areas and a small area south of the city of Madera, the entire unincorporated Valley area has an Insurance Services Office (ISO) rating of 9. The Bonadelle Ranchos has a rating of 6, as does most of the Madera Ranchos, except for the southernmost part which has a rating of 8. In addition, two small areas immediately south of the city of Madera are rated 8.

Foothills/Mountains

Public protection classifications are designated by the Insurance Services Office (ISO). The ISO bases its classifications on a number of factors, including fire department location, equipment, and staffing; water supply; and communications abilities. Ratings range from 1 to 10, with 1 being the best possible fire protection, and 10 being the worst. Figure 7-4 of the *Background Report* depicts the ISO ratings for the unincorporated areas of the county. As the figure shows, most of the eastern part of Madera County has an ISO rating of 9, although the areas around Oakhurst and Bass Lake have ratings of 8 and the general area along Highway 49 and Highway 41, including Coarsegold and Ahwahnee are rated 6 and the North Fork area has a rating of 6.

The greatest wildland fire hazards in the Foothills exist in areas with quickly ignitable, dense understory vegetation, such as grasses, adjacent to slower and hotter burning fuels, such as trees. Particularly fire-prone vegetation can be found in the upper foothills, or chaparral belt, which is summer dormant and highly flammable. Parts of the Foothill area with steep-sloping topography are also very hazardous, since

fires burn hotter and faster in these areas, response time increases, and accessibility for emergency equipment is reduced.

Further east, because vegetation in the mountain areas of the county is generally dense and fire-prone and because the steep slopes in the area make firefighting more difficult, fire hazards in the eastern part of the county are very high.

Many of the structures in the Foothill and Mountain communities were built prior to 1987, when the County Fire Department began enforcing fire codes, and may be substandard in terms of fire safety. There is currently no program for retrofitting of such structures (with the exception of those structures that legally require inspection, such as institutional buildings).

METHODOLOGY

This section describes the assumptions and thresholds of significance used to determine impacts of wildland and urban fire hazards. The analysis was conducted qualitatively by considering existing and anticipated wildland and urban fire hazards described in the *Background Report* in relationship to the areas proposed for development in the *General Plan*.

Assumptions

1. New urban development in the county is expected to support additional needed fire protection services which are expected to generally meet General Plan levels of service and response time standards.
2. New suburban and rural development in high fire hazard areas will expose a larger population to existing wildland fire hazards and result in greater structural fire risk in these areas.

Thresholds of Significance

For purposes of this EIR, impacts are considered significant if adoption or implementation of the plan would result in significantly increased exposure of people or property to major fire hazards.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

Valley

Structural Fire Hazards

New development under the *Land Use Diagram* would be required to meet construction standards for fire safety.

Wildland Fire Hazards

Wildland fire hazards are very limited in the Valley area.

Foothills/Mountains

Structural Fire Hazards

New development under the *Land Use Diagram* would be required to meet construction standards for fire safety.

Wildland Fire Hazards

Substantial new development is projected for the Foothill/Mountain subregion of the county which is subject to high fire hazards. This development is primarily in the North 41 Corridor and North Fork/Millerton areas. Substantial new development is not anticipated in the East area as it is mainly under federal jurisdiction. Land designated for residential development in the North 41 Corridor and North Fork/Millerton areas are at relatively low densities; nevertheless, a substantial number of persons and property will potentially be exposed to wildland fires.

GENERAL PLAN POLICY RESPONSE

The *Policy Document* includes policies and implementation measures to address impacts resulting from increased wildland and structural fire hazards and risks due to the development under the General Plan.

General Land Use Policies

1.A.5. The County shall permit only low-intensity forms of development in areas with sensitive environmental resources or where natural or human-caused hazards are likely to pose a significant threat to health, safety, or property.

Visual and Scenic Resources Policies

- 1.H.3. The County shall require that new development on hillsides employ safe design, construction, and maintenance techniques that:*
- a. Preserve and enhance the hillsides;*
 - b. Ensure that development near or on portions of hillsides do not cause or worsen natural hazards such as erosion, sedimentation, fire, or water quality concerns;*
 - c. Include erosion and sediment control measures including temporary vegetation sufficient to stabilize disturbed areas;*
 - d. Minimize risk to life and property from slope failure, landslides, and flooding; and*
 - e. Maintain the character and visual quality of the hillside.*

Law Enforcement, Fire, and Emergency Medical Services Policies

- 3.G.1. The County shall ensure provision of effective law enforcement, fire, and emergency medical services to unincorporated areas.*
- 3.G.2. The County shall reserve adequate sites for sheriff, fire, and emergency medical facilities in unincorporated locations in Madera County.*

- 3.G.3. *The County shall require new development to pay its fair share of the costs for providing law enforcement, fire, and emergency medical facilities, subject to the requirements of California Government Code Section 66000 et seq. (AB 1600).*
- 3.G.4. *The County shall require new development to be designed to maximize safety and security and minimize fire hazard risks to life and property.*

Fire Protection Services Policies

- 3.H.1. *The County shall encourage local fire protection agencies in Madera County to maintain the following as minimum fire protection standards (expressed as Insurance Service Organization (ISO) ratings):*
- a. ISO 4 in urban areas*
 - b. ISO 6 in suburban areas*
 - c. ISO 8 in rural areas*
- 3.H.2. *The County shall encourage local fire protection agencies in the county to maintain the following as minimum standards (expressed as average first alarm response times to emergency calls):*
- a. 10 minutes in urban areas*
 - b. 15 minutes in suburban areas*
 - c. 20 minutes in rural areas*
- 3.H.3. *The County shall require that new fire stations be located to achieve a service level capability consistent with existing and planned land uses.*
- 3.H.4. *The County shall require new development to develop or fund fire protection facilities that, at a minimum, maintain the above service level standards.*
- 3.H.5. *The County shall ensure that all proposed developments are reviewed for compliance with fire safety standards by responsible local fire agencies per the Uniform Fire Code and other state and local ordinances.*
- 3.H.6. *The County shall work with local fire protection agencies to eliminate structurally unsafe and fire-hazardous housing structures that are beyond repair or rehabilitation.*

Vegetation Policies

- 5.F.8. *The County shall support continued use of prescribed burning mimic the effects of natural fires to reduce fuel volumes and associated fire hazard to human residents and to enhance the health of biotic communities.*

Fire Hazards Policies

- 6.C.1 *The County shall ensure that development in high-fire-hazard areas is designed and constructed to minimize risk from fire hazards and meets all applicable state and county fire standards. In areas with high or extreme wildfire hazards, limitation of parcel sizes to 2½ acres or larger or*

encouragement of clustered or planned residential development with on-site fire suppression measures.

- 6.C.2. The County shall require that discretionary permits for new development in fire hazard areas be conditioned to include requirements for fire-resistant vegetation, cleared fire breaks, or a long-term comprehensive fuel management program. Fire hazard reduction measures shall be incorporated into the design of development projects in fire hazard areas.*
- 6.C.3. The County shall require that new development have water systems that meet County fire flow requirements. Where minimum fire flow is not available to meet County standards, alternate fire protection measures, including sprinkler systems, shall be identified and may be incorporated into development if approved by the appropriate fire protection agency.*
- 6.C.4. The County shall review project proposals to identify potential fire hazards and prevent or mitigate hazards to acceptable levels of risk.*
- 6.C.5. The County shall require that development have adequate access for fire and emergency vehicles and equipment. The County shall require that all major subdivisions shall have two points of ingress and egress.*
- 6.C.6. The County shall ensure that existing and new buildings of public assembly incorporate adequate fire protection measures to reduce the potential loss of life and property in accordance with state and local codes and ordinances.*
- 6.C.7. The County shall encourage fire protection agencies to continue education programs in schools, service clubs, organized groups, industry, utility companies, government agencies, press, radio, and television in order to increase public awareness of fire hazards within the county.*
- 6.C.8. The County shall work with local fire protection agencies, the California Department of Forestry and Fire Protection, and the U.S. Forest Service to promote the maintenance of existing fuel breaks and emergency access routes for effective fire suppression.*
- 6.C.9. The County shall encourage and promote installation and maintenance of smoke detectors in existing residences and commercial facilities that were constructed prior to the requirement for their installation..*
- 6.C.10. The County shall continue to cooperate with the California Department of Forestry and local fire protection agencies in managing wildland fire hazards.*

Programs

- 6.4. The County shall periodically evaluate fire protection services to determine if resources are being effectively and efficiently used.*
- 6.5. The County shall review buildings and structures during the building permit stage to ensure construction according to county and state fire safety standards.*
- 6.6. The County shall develop high-visibility fire prevention programs, including those offering voluntary home inspections and promoting awareness of home fire prevention measures.*

Emergency Management Policies

6.E.3. *The County shall ensure that the siting of critical emergency response facilities such as hospitals, fire stations, sheriff's offices and substations, dispatch centers, emergency operations centers, and other emergency service facilities and utilities have minimal exposure to flooding, seismic and geological effects, fire, and explosions.*

These policies and programs require new development to provide new fire protection services and to incorporate fire resistance and fire hazard reduction measures into their design. Policies also promote increased education and promotion of fire prevention programs, and improvements in fire protection agency service and coordination.

IMPACTS

Structural Fire Hazards

Older existing structures not constructed to current fire safety codes may present potential structural fire hazards in the Valley and Mountain areas. This is not considered an impact of the *General Plan*. General Plan policies and other County regulations ensure that new development is constructed to meet fire safety standards. The impacts of development under the *General Plan* for structural fire hazards is therefore, considered less-than-significant.

Wildland Fire Hazards

Some existing and new rural residences located in remote or isolated areas would continue to be exposed to unavoidable risk from wildland fires, because of the physical constraints imposed by the topography and vegetation in the high fire hazard areas of Madera County, and inadequate access. This is not considered an impact of the *General Plan*.

With the General Plan policies, the potential risks associated with new development in the Mountains in areas of high fire hazard are reduced. Wild fires and forest fires will occur in the future, however, and there are no policies available that can fully mitigate the risks associated with development in areas of high fire hazards. The level of potential hazard depends on the level of fire protection available, weather conditions, and the extent to which people living in these areas comply with fire safety precautions. Realistically, the County can only address the level of fire protection (addressed in Chapter 5). Increased exposure of persons and property to fire hazards in the Foothills/Mountains (within the North 41 Corridor and North Fork/Millerton areas) is considered a potentially significant impact.

MITIGATION MEASURES

No additional mitigation measures are available that could mitigate the impacts of allowing development in high fire hazard areas.

8.4 HAZARDOUS MATERIALS

This section assesses the potential for health and safety problems associated with development in areas where hazardous materials are being or may have been used, stored, generated, or disposed. The use, handling, and storage of hazardous materials at industrial and commercial facilities can result in accidental spillage or leakage or purposeful unauthorized release of contaminants to the environment.

ENVIRONMENTAL SETTING

Hazardous materials concerns in Madera County are described in Chapter 7 of the *Background Report*. According to the *California Health and Safety Code* (Section 25501), a hazardous material is defined as ". . . any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any materials which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment."

In January 1989, Madera County adopted a *Hazardous Waste Management Plan* (HWMP) that identifies hazardous waste generators within the county, and estimates the amount and type of waste produced by each. It also projects future waste generation within the county. In addition, the plan identifies the need for and potential future locations of treatment, storage, and disposal (TSD) facilities; and includes policies for the management of hazardous waste within the county. The major goal of the HWMP is to reduce the need for new hazardous waste facilities by reducing waste at its source, through recycling, reduced use of hazardous materials, and public education.

Hazardous waste generators in Madera County include industries, businesses, public and private institutions, and households. The County Department of Health Services (DHS) classifies waste generators according to three categories: "large quantity" generators, or those which produce 1,000 kilograms or more per month; "small quantity" generators, or those producing less than 1,000 kilograms per month, include various businesses, farms, and households; and "household wastes," which includes solvents, pesticides, and miscellaneous wastes, such as car batteries, tires, cleaners, fertilizer, and paint.

The Madera County Department of Health Services identified nine contaminated sites (i.e., those containing unacceptable levels of toxic substances that would pose risks to health and safety) in the county as of 1987. Six of the sites contained underground gasoline tank leaks, two were "contaminated with Pentachlorophenol (PCP) and pesticides," and one contained a contaminated well. The County Environmental Health Department has identified a seventh underground gasoline tank leak on a tenth site. The seven underground tank sites are not discussed in the HWMP, because the Air Pollution Control District allows aeration of the soil for such sites; the HWMP maintains that since no soil is removed from the site under this procedure, the site is not classified as a hazardous waste generator. For the same reason, the contaminated well, which has been abandoned, is not discussed as a generator in the HWMP. The two remaining sites discussed are the Madera Municipal Airport and McGillis and Gibbs Company.

There are no treatment, storage, and disposal (TSD) facilities in Madera County. Certainteed Corporation is the only licensed storage facility in the county, and it does not accept waste produced off-site. In 1986, approximately 90 percent of all hazardous waste generated in the county was transported to facilities outside the county. Counties containing facilities that accept hazardous waste from Madera County include Stanislaus, Alameda, Kings, and Los Angeles. The HWMP estimated that the remaining 10 percent of hazardous waste generated in the county in 1986 was disposed of illegally on-site.

There are four major state highways in the county: Highways 99, 152, 145, and 41. In terms of the current transport situation, the major routes are Highway 99 and the two railroads, which transport thousands of tons of hazardous materials each year. Most of the suitable sites for future TSD facilities are on or near Highways 99 or 152. In addition, Southern Pacific and Santa Fe Railroads cross most of the site areas. Highway 145, which links Highways 41 and 99, has limitations, because it crosses the

city of Madera before intersecting Highway 99; the potential for spills caused by accidents to affect large numbers of people is great. The HWMP identifies Avenue 12 as a more feasible link, although this route crosses a residential subdivision, which would be at risk for hazardous waste spills. The area along all of these routes is at risk of being affected by spills during transport, and this should be a consideration in terms of future development along the roadways.

Valley

Most of the HWMP's analysis and discussion focuses on the western part of the county, along the Highway 99 corridor generally and the cities of Madera and Chowchilla specifically. Of the seven large waste generators in the county, six are in this area, as are six of the eight major contaminated sites. The Highway 99 corridor also contained all of the TSD locations proposed in the HWMP. In addition, the western part of the county contains three of the four hazardous waste transportation routes designated in the HWMP (i.e., Highways 99, 145, and 152). Finally, because the valley part of the county is largely agricultural, the use and storage of pesticides is prominent.

Foothills/Mountains

According to the HWMP, the Mountain area contains few problems related to hazardous materials. The HWMP did, however, identify the PG&E substation in Coarsegold as a "large generator" of hazardous material due to the existence of contaminated soils on site; because clean-up of the site will remedy this problem, the County does not expect it to be a major future generator of waste. The HWMP also identified the Caltrans service yard in Coarsegold as a contaminated site, and the contaminated site in North Fork (Gas 'N Stuff). Highway 41 is also identified as a transportation route for hazardous materials.

While the HWMP did not identify any treatment, storage, and disposal (TSD) facilities in the foothills, the EIR for the HWMP identified two foothill locations as suitable for residual repositories (disposal facilities), within the Raymond/Central area. One is at the northeast corner of the intersection of Avenue 26 and Road 26, approximately 10 miles east of Highway 99, and the other is at the southwest corner of the intersection of Avenue 26 and Road 29, approximately 12 miles east of Highway 99.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to determine impacts related to hazardous materials. The analysis was conducted qualitatively, by considering existing and anticipated activities generating hazardous materials in relationship to the areas proposed for development in the *General Plan*.

Assumptions

1. Increased population and employment growth in the county will result in the increased generation of hazardous wastes.
2. Some development proposed in accordance with the *General Plan* is expected to be located in and near areas where hazardous materials have been used or are being used.
3. The County's primary mechanism for addressing hazardous materials is, and will continue to be, the *Hazardous Waste Management Plan*, which was adopted in January 1989.

Thresholds of Significance

Based on the *CEQA Guidelines* (Appendix G), impacts are considered significant and adverse if adoption or implementation of the *General Plan* would create a potential public health hazard or involve the use, production, or disposal of materials which pose a hazard to people or animal or plant populations.

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

Valley

The western part of Madera County has historically experienced the greatest problems related to hazardous materials, and development under the *General Plan Land Use Diagram* will result in the increased possibility of exposure of people, animals, and plants to hazardous materials. This exposure is expected to be greatest in areas where existing "large quantity generators" are operating. To a lesser extent, "small quantity generators" and household wastes will continue to pose problems. In addition, local highways and railroads will continue to transport significant amounts of hazardous materials, thereby exposing nearby people, animals, and plants to potentially hazardous conditions. Finally, continued agricultural operations in the county will involve the use and storage of fertilizers, herbicides, and pesticides, including some that may have harmful effects.

Foothills/Mountains

Development in the eastern part of the county will result in more generation and disposal of hazardous materials, primarily as a result of "small quality generators" and household wastes. Highway 41 will continue to transport some hazardous materials.

GENERAL PLAN POLICY RESPONSE

The *Policy Document* includes policies and implementation measures to address health and safety impacts resulting from the generation, handling, storage, and disposal of hazardous materials. They are as follows:

Hazardous Materials Policies

- 6.G.1. *The County shall ensure that the use and disposal of hazardous materials in the county complies with local, state, and federal safety standards.*
- 6.G.2. *The County shall encourage source reduction, recycling, and on-site treatment of hazardous wastes to reduce hazardous waste generation and disposal.*
- 6.G.3. *The County shall discourage development of residences or schools near known hazardous waste disposal or handling facilities.*
- 6.G.4. *The County shall review all proposed development projects that manufacture, use, or transport hazardous materials for compliance with the HWMP.*
- 6.G.5. *The County shall strictly regulate the storage of hazardous materials and wastes.*

- 6.G.6. *The County shall ensure that industrial facilities are constructed and operated in accordance with current safety and environmental protection standards.*
- 6.G.7. *The County shall require that applications for discretionary development projects that will generate hazardous wastes or utilize hazardous materials include detailed information on hazardous waste reduction, recycling, and storage.*
- 6.G.8. *The County shall require that any business that handles a hazardous material prepare a plan for emergency response to a release or threatened release of a hazardous material.*
- 6.G.9. *The County shall encourage the State Department of Health Services and the California Highway Patrol to review permits for radioactive materials on a regular basis and to promulgate and enforce public safety standards for the use of these materials, including the placarding of transport vehicles.*
- 6.G.10 *The County shall identify sites as specified in the County Hazardous Waste Management Plan that are appropriate for hazardous material storage, maintenance, use, and disposal facilities due to potential impacts on adjacent land uses and the surrounding natural environment.*
- 6.G.11 *The County shall cooperate with local fire protection and other agencies to ensure an adequate countywide response capability to hazardous materials emergencies.*

Programs

- 6.11. *The County shall maintain and implement the County Hazardous Waste Management Plan (CHWMP). The plan addresses the following: hazardous waste generators; emergency response programs; transportation, storage, collection, treatment, and disposal of hazardous wastes generated within Madera County; the siting of hazardous waste facilities; and enforcement activities. Any proposed hazardous waste facility or expansion of an existing hazardous waste facility shall be consistent with the CHWMP.*
- 6.12. *The County shall establish mutual aid agreements for response to hazardous materials emergencies.*

These policies and programs serve to increase the County's commitment to monitoring and controlling hazardous materials within Madera County.

IMPACTS

With implementation of the *General Plan* policies and programs, combined with continued implementation of the *County Hazardous Waste Master Plan*, the potential hazardous materials impacts associated with development under the *General Plan* are considered less-than-significant.

MITIGATION MEASURES

No additional mitigation measures are required beyond the policies and programs of the *General Plan*.

8.5 NOISE

ENVIRONMENTAL SETTING

A detailed description of the existing noise environment is contained in Chapter 8 of the *Background Report*. The existing noise environment throughout the majority of Madera County is dominated by traffic on state highways and major county roads.

The Southern Pacific Transportation Company (SP) and Santa Fe Railroad also operate two major railroad lines within Madera County. The SP line generally follows State Route 99. The Santa Fe line is more or less parallel to the SP but is located about two to four miles to the east.

Industrial and other fixed noise sources are dispersed throughout Madera County. The major fixed noise sources identified in the *Background Report* include industries and lumber mills.

Noise related to aircraft operations were identified for the Chowchilla Municipal Airport and Madera Municipal Airport.

A community noise survey was conducted throughout unincorporated Madera County away from major noise sources, in areas containing noise-sensitive land uses. Noise levels ranged between 41 dB and 63 dB L_{dn} .

METHODOLOGY

This section describes the assumptions and thresholds of significance used to determine noise impacts.

Assumptions

1. Development throughout Madera County will occur according to the *Land Use Diagram* as described in Chapter 2 of this *EIR*.
2. As development occurs, increased traffic is assumed to result in increased traffic noise. In addition, industrial facilities and other stationary noise sources will be developed. Demand at existing aviation facilities is also expected to increase.
3. Increases in traffic noise levels are based upon changes in traffic volumes. Travel speeds, truck mix and distributions of traffic throughout a 24-hour period are assumed to remain the same. Traffic volume data were provided by Madera County and Dowling Associates. The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to predict distances to L_{dn} contours for all highways and major roadways.
4. While it is difficult to determine the noise impacts associated with future industrial facilities, areas of potential noise impacts associated with new industrial facilities can generally be determined based on designated land uses.
5. Railroad officials were not able to provide estimates of future railroad activity. Therefore future railroad noise levels were assumed to be the same as existing railroad noise levels. Standard railroad modeling techniques were used to determine the distances to L_{dn} contours.

6. Future aircraft noise levels were based upon master plans and previous analyses conducted for each airport.

Thresholds of Significance

For the purposes of this EIR, impacts are considered significant if projected noise levels would exceed the standards contained in the *Policy Document*.

Another means of assessing noise impacts is to estimate public reaction to changes in noise levels. Table 8-1 is commonly used to show expected public reaction to changes in environmental noise levels. This table was developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 to 70 dBA, which is the usual range of voice and interior noise levels. A change in noise levels that is +3 dBA or more in areas of noise-sensitive land uses is considered to be significant.

TABLE 8-1 SUBJECTIVE REACTION TO CHANGES IN NOISE LEVELS OF SIMILAR SOURCES	
Change in Level, dBA	Subjective Reaction
1	Imperceptible (Except for Tones)
3	Just Barely Perceptible
6	Clearly Noticeable
10	About Twice (or Half) as Loud
Source: <i>Architectural Acoustics</i> , M. David Egan, 1988.	

IMPLICATIONS OF THE GENERAL PLAN LAND USE DIAGRAM

Traffic Noise Levels

Development according to the *Land Use Diagram* would result in an increase in traffic noise levels. Table 8-2 shows the distances to the existing and future 60 dB L_{dn} traffic noise contours. This table also shows the relative change in noise levels from those reported in the *Background Report*. Traffic noise levels at existing and future land uses may exceed acceptable noise exposure levels. Future noise-sensitive uses could be located inside the 60 dB L_{dn} roadway noise contours. Increased noise levels associated with traffic may encroach upon existing noise-sensitive land uses, or further increase noise levels already in excess of 60 dB L_{dn} .

TABLE 8-2

TRAFFIC NOISE DATA
DISTANCE (FEET) FROM CENTER OF ROADWAY
TO 60 dB L_{dn} CONTOURS AND NOISE LEVEL CHANGE

Roadway Segment/Description	Existing (1990)	Future (2010)	Change, dBA Existing vs. Future
Avenue 7			
1 west of Highway 145	125	186	+3.5
2 east of Highway 145	142	200	+2.2
Avenue 7½			
3 at San Joaquin River	168	---	---
4 west of merger with Avenue 7	119	---	+3.2
Avenue 12			
5 west of Highway 145	155	173	+0.7
6 east of Highway 145	173	249	+2.3
7 west of Highway 99	162	271	+3.4
8 east of Highway 99	128	603	+10.1
9 west of Road 36	130	227	+3.6
10 east of Road 36	202	272	+1.9
11 west of Road 38	144	274	+4.2
12 east of Road 38	162	339	+4.9
13 west of Highway 41	207	332	+3.1
Avenue 14			
14 Road 23½ to Road 24	111	106	-0.3
15 east of Road 24½	156	224	+2.9
16 west of Road 23	102	115	+0.8
17 east of Road 23	99	106	+0.4

TABLE 8-2 (Continued)

TRAFFIC NOISE DATA
DISTANCE (FEET) FROM CENTER OF ROADWAY
TO 60 dB L_{dn} CONTOURS AND NOISE LEVEL CHANGE

Roadway Segment/Description	Existing	Future	Change, dBA Existing vs. Future
Avenue 17			
18 west of Road 26	120	292	+5.8
19 east of Road 26	138	233	+3.4
Road 26			
20 north of Avenue 13	95	48	-4.4
21 north of Cleveland	331	590	+3.8
22 north of Sherwood	325	418	+1.6
23 north of Adell St.	191	418	+5.1
24 south of Avenue 17	155	337	+5.1
25 north of Avenue 17	130	220	+3.4
Road 36			
26 north of Avenue 12	122	220	+3.8
Road 222			
27 south of Road 225	166	145	-0.9
28 at Highway 41	162	232	+2.4
Road 415			
29 west of Coarsegold	91	---	---
30 at Highway 41	125	---	---
Road 426			
31 at Highway 41	186	169	-0.7
32 at Fresno River	121	169	+2.2
33 west of Road 425B	154	292	+4.8
34 east of Road 425B	148	292	+4.4

TABLE 8-2 (Continued) TRAFFIC NOISE DATA DISTANCE (FEET) FROM CENTER OF ROADWAY TO 60 dB L_{dn} CONTOURS AND NOISE LEVEL CHANGE			
Roadway Segment/Description	Existing	Future	Change, dBA Existing vs. Future
State Route 41			
35 south County line to Rte 145*	278	365	+1.7
36 Rte 145 Rte 99	178	229	+1.6
37 Rte 49 to Road 426	271	457	+3.4
38 Road 426 to Bass Lake Rd.	198	277	+2.1
State Route 49			
39 Rte 41 to Road 628	106	153	+2.4
State Route 59			
40 Jct Rte 152	148	---	---
State Route 99			
41 south county line to Gateway Dr.	1299	2063	+3.0
42 Avenue 17 to north county line	947	1451	+2.8
State Route 145			
43 Avenue 13 to Jct Rte 99	241	398	+3.3
*Varies along the roadway segment --- Traffic data not available Source: Brown-Buntin Associates, Inc.			

From Table 8-2 it is apparent that development under the *Land Use Diagram* will generally increase traffic noise levels, and the increase in many locations (highlighted in the table) will be significant (+3 dBA or more).

Railroad Noise Levels

Development according to the *Land Use Diagram* could result in noise-sensitive land uses encroaching on the mainline SP or Santa Fe railroad tracks. This could result in individuals being exposed to noise levels which may be considered unacceptable. Table 8-3 shows the distances to the 65 dB L_{dn} railroad noise contours. Noise-sensitive land uses located inside the 65 dB L_{dn} contours shown in Table 8-3 would be considered exposed to unacceptable noise levels.

TABLE 8-3 DISTANCE (FEET) TO 65 dB L_{dn} NOISE CONTOURS FROM RAILROAD TRACK	
Southern Pacific	335 feet
Santa Fe	370 feet

Industrial and Other Fixed Noise Sources

As additional development occurs throughout the county, the potential exists for noise-sensitive land uses to encroach upon existing or proposed fixed noise sources. The potential also exists for new fixed noise sources to encroach upon existing or proposed noise-sensitive land uses. Development under the *Land Use Diagram* would result in additional commercial and industrial uses in the county.

Land uses designated for commercial, office, mixed uses, and industrial uses could potentially result in the development of noise sources which may exceed acceptable standards. It is not possible at this time to determine noise impacts associated with these land use designations. Therefore, potential noise impacts should be considered for these types of facilities when they are proposed.

Aircraft Noise

The existing and future 60 dB CNEL contours around Chowchilla and Madera Municipal Airports lie with the city boundaries and will not affect the general plan land use diagram.

GENERAL PLAN POLICY RESPONSE

The *Policy Document* includes policies and implementation measures to address impacts resulting from increased noise levels due to development under the *Land Use Diagram*.

Transportation Noise Source Policies

- 7.A.0.1. *Development of new noise-sensitive land uses, including residential uses, schools, hospitals and convalescent homes, shall not be permitted in areas exposed to existing or projected future noise levels from transportation noise sources which exceed 60 dB L_{dn} in outdoor activity areas and 45 dB L_{dn} in interior spaces with the exception that in areas adjacent to State Route 99 and the mainlines of the Southern Pacific Railroad and the Santa Fe Railway an exterior noise level standard of 65 dB L_{dn} will be applied. Transportation noise sources include vehicular traffic on public roadways, aircraft in flight, and railroad line operations.*
- 7.A.0.2 *Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed 60 dB L_{dn} within the outdoor activity areas of existing or planned noise-sensitive land uses and 45 dB L_{dn} in interior spaces of existing or planned noise-sensitive land uses.*

- 7.A.0.3 The County shall request the California Highway Patrol, the sheriff's office, and local police departments to actively enforce the California Vehicle Code sections relating to adequate vehicle mufflers and modified exhaust systems.

Non-transportation Noise Source Policies

- 7.A.0.4 Development of new noise-sensitive land uses shall not be permitted where the noise level from existing non-transportation noise sources exceeds the noise level standards of Table 7.A.4.

TABLE 7.A.4 MAXIMUM ALLOWABLE NOISE EXPOSURE FOR NON-TRANSPORTATION NOISE SOURCES¹		
	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
<i>Hourly L_{eq}, dB</i>	50	45
<i>Maximum level, dB</i>	70	65
¹As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers at the property line. <i>Note:</i> Each of the noise levels specified above shall be lowered by 5 dB for pure tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).		

- 7.A.0.5 Noise which will be created by new non-transportation noise sources, or existing non-transportation noise sources which undergo modifications that may increase noise levels, shall be mitigated so as not to exceed the noise level standards of Table 7.A.4 on lands designated for noise-sensitive uses. This policy does not apply to noise levels associated with agricultural operations.
- 7.A.0.6 The County shall enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC) concerning interior noise exposure for multi-family housing, hotels and motels.
- 7.A.0.7 Where the development of a project may result in land uses being exposed to existing or projected future noise levels exceeding the levels specified by the policies of the noise section of the General Plan, the County shall require an acoustical analysis early in the review process so that noise mitigation may be included in the project design. For development not subject to environmental review, the requirements for an acoustical analysis shall be

implemented prior to the issuance of a building permit. The requirements for the content of an acoustical analysis are given in Table 7.A.7.

TABLE 7.A.7

REQUIREMENTS FOR AN ACOUSTICAL ANALYSIS

An acoustical analysis prepared pursuant to Policy 7.A.7 shall:

- A. Be the financial responsibility of the applicant.*
- B. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.*
- C. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions. Where actual field measurements cannot be conducted, all sources of information used for calculation purposes shall be fully described. When the use being studied is a commercial use, all noise sources related to the service and maintenance of the facility shall be considered, including parking lot and landscape maintenance, refuse collection and truck loading/unloading activities.*
- D. Estimate existing and projected (20 years) noise levels and compare those levels to the adopted policies of the noise section of the General Plan. Projected future noise levels shall take into account noise from planned streets, highways and road connections.*
- E. Recommend appropriate mitigation to achieve compliance with the adopted policies of the noise section of the General Plan, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers or structural modifications to buildings which contain noise-sensitive land uses.*
- F. Estimate noise exposure after the prescribed mitigation measures have been implemented.*
- G. Describe a post-project assessment program which could be used to evaluate the effectiveness of the proposed mitigation measures.*

Programs

- 7.1** *The County shall review new public and private development proposals to determine conformance with the policies of the noise section of the General Plan.*
- 7.2** *The County shall develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the development review and building permit processes.*
- 7.3** *The County shall develop and employ procedures to monitor compliance with the policies of the noise section of the General Plan after completion of projects where noise mitigation measures have been required.*

- 7.4 *The County shall periodically review and update the noise section of the General Plan to ensure that noise exposure information and specific policies are consistent with changing conditions within the county and with all new noise control regulations or policies.*

These policies and programs set noise standards and require new development to address its noise impacts and address the development in areas exceeding County noise standards.

IMPACTS

Traffic Noise

Noise impacts of roadway traffic on the development of new noise-sensitive land uses would be reduced to a less-than-significant by full implementation of the *General Plan* policies and programs. There is a potential for existing noise-sensitive uses which currently are exposed to acceptable traffic noise levels to experience increased traffic noise levels in excess of proposed standards as a result of development under the *General Plan*. This is most likely to occur along roadways where the noise (dBA) increases by 3 dBA or more, as shown in Table 8-2. State and County road improvement projects will be required to address noise impacts resulting from widening or improvements of State and County roads. Where traffic volumes will increase on existing roadways, but additional lanes are not required to accommodate increased traffic volumes, however, noise levels will increase and potentially affect surrounding noise-sensitive land uses. This is considered a potentially significant impact.

Railroad Noise

Noise impacts of railroad traffic on noise-sensitive land uses would be reduced to a less-than-significant by full implementation of the *General Plan* policies and programs.

Industrial and Other Fixed Noise Sources

Noise impacts of industrial and other fixed noise sources on noise-sensitive land uses would be reduced to a less-than-significant level by the *General Plan* policies and programs.

Aircraft Noise

Noise impacts of airports or aircraft on noise-sensitive land uses would be reduced to a less-than-significant level the *General Plan* policies and programs.

MITIGATION MEASURES

There are no feasible mitigation measures available to reduce the potential noise impacts of increased traffic levels on existing noise-sensitive land uses.

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CHAPTER 9

MANDATORY CEQA SECTIONS

9.1 INTRODUCTION

This chapter of the *EIR* focuses on topics specifically required by the *State CEQA Guidelines* to be addressed in EIRs. The *Guidelines* states a preference that these subjects be discussed in separate sections or paragraphs, but allows for the inclusion of a table showing where each of the subjects is discussed within the EIR. This chapter combines the two approaches, with separate discussions of each mandatory topic and references to appropriate sections elsewhere in the *EIR* for elaboration on the discussion included here.

9.2 ALTERNATIVES

REQUIREMENTS

The following paragraphs discuss the requirement of State law that EIRs include descriptions of the alternatives to a proposed project that have been considered. The first section describes the general requirements of CEQA and the second section summarizes the directions of the California *General Plan Guidelines* with respect to the consideration of alternatives in general plan projects.

CEQA GUIDELINES

According to the *CEQA Guidelines*, an EIR must "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." (§15126) Following are the directions that the *CEQA Guidelines* provide regarding the discussion of alternatives within an EIR.

- (1) Purpose. Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (*Public Resources Code* §21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- (2) Selection of a range of reasonable alternatives. The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record.

- (3) Evaluation of alternatives. The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effect of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed (*County of Inyo v. City of Los Angeles*, 124 Cal. App.3d).
- (4) "No project" alternative. The specific alternative of "no project" shall also be evaluated along with its impact. The "no project" analysis shall discuss the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.
- (5) Rule of reason. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant impacts of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.

GENERAL PLAN GUIDELINES

The *General Plan Guidelines* further elaborate on CEQA's requirements as they pertain to the preparation of general plans, stating as follows:

For any set of goals and objectives, there will be a number of possible courses of action a community may pursue. Alternative plan proposals should be developed and tested at this stage to enable a community to examine its possible planning scenarios. Besides the goals and objectives, the varying plans should consist of alternative sets of principles, policies, standards and plan proposals.

The nature and detail of the alternatives will depend upon the extent of the planning program. For new general plans and comprehensive general plan revisions, the alternatives will often focus on population levels and on the scale, location, and type of development. The alternatives in a more limited planning program, such as for a single element, will deal with a narrower range of options. To the extent possible, the alternatives should be developed with implementation measures in mind. This will ensure the feasibility of the basic policies.

The alternatives need not be mutually exclusive. Ultimately, the decision makers may select an amalgamation of two or more alternatives as the best choice.

ALTERNATIVES

As a practical matter, because of the comprehensive nature of the general plan, the policy and program alternatives that could conceivably be combined with these land use alternatives are infinite. For most policies in the plan, there is at least one alternative, and for many, if not most, individual parcels of land, there is at least one feasible alternative land use designation. The evaluation of the impacts of all these alternatives and their many combinations is simply not feasible or useful. For purposes of satisfying the spirit of CEQA's requirement to address alternatives, this *EIR* identifies feasible alternatives, focusing on land use alternatives for those areas where the *General Plan* proposes major changes in planned land use and in those areas where the *General Plan* has been identified as having the greatest environmental impact.

Following is a description of the four alternatives. Alternative 1 is the "No Project (Existing General Plan) Alternative," which assumes continued reliance on the existing County General Plan, including its land use and circulation plans, and all goals, policies, and implementation programs. Alternatives 2 and 4 are modifications of the *Draft General Plan* that reduce the amount of land designated in the Rio Mesa and Gunner Ranch West new growth areas and thus reduce related development potential, but include the *Circulation Plan Diagram* and all relevant goals, policies, and implementation programs of the *Draft Policy Document*. Alternatives 3 and 4 reduce the development potential in the North 41 Corridor area by including a growth control mechanism as a policy and implementation program that would serve to limit development in this area.

A final alternative required to be considered by CEQA is the "No Project/No Development" Alternative. This alternative would allow for no new development and would assume continuation of existing conditions as described in the *Background Report*. The analysis in this EIR compares the impacts of development to existing conditions. The "No Project/No Development" Alternative would have no significant environmental impacts, and would therefore be environmentally superior to the *General Plan*. It is considered infeasible, however, because there are numerous existing development entitlements which cannot be revoked and because the County has approved area plans for Gunner Ranch West and the Rio Mesa areas. Furthermore, this alternative would not respond to the overall objectives of the General Plan Update and would be inconsistent with the adopted *Housing Element*, as it would not provide any opportunities for the County to meet its fair share of regional housing needs.

None of the remaining four alternatives assume any change in planned land uses within the city limits of the City of Chowchilla or within the City of Madera's General Plan area, as development is assumed to occur in these areas consistent with the Cities' General Plans and not subject to any County control. No changes are assumed in existing County-approved subdivisions, since it would not be feasible for the County to revoke existing entitlements.

Development estimates for the four alternatives are included in Tables 9-1 through 9-4. Descriptions of the alternatives and the environmental impacts of each alternative is discussed in the following paragraphs.

Alternative 1: No Project (Existing General Plan) Alternative

The "No Project (Existing General Plan) Alternative" is the existing (1969) Madera County General Plan, since this plan would continue to govern land use in the county if a revised General Plan is not adopted. For the purposes of this discussion, the existing General Plan would be as it existed on June 1994 when the *Draft General Plan* and EIR were published; since that time the County has amended the plan to adopt area plans for Gunner Ranch West and Rio Mesa areas. The existing General Plan was described in Chapter 1 of the *Draft Background Report*.

Major differences between the new *General Plan* and the existing (1969) General Plan are summarized below.

1. Planned land uses are generally the same except for the designation of new growth areas. The Rio Mesa, Gunner Ranch West, and State Center Community College new growth areas are designated for agricultural uses under the existing *General Plan*. The existing land use designations would continue to be used.
2. Assumed network improvements described in the new *General Plan's Circulation Plan Diagram* and described in Chapter 4 of the *EIR* would not be included under the existing General Plan, although for purposes of analysis, the traffic analysis also looks at this alternative with assumed roadway improvements.
3. The policies of the various elements and area plans (other than Rio Mesa and Gunner Ranch West) would remain unchanged under the existing General Plan.

Development estimates for the No Project Alternative are described in Table 9-1. Development estimates and patterns would differ from the new *General Plan* in three of the geographic analysis areas.

1. West/Agriculture Area: The less restrictive agricultural designations as compared to the new *Land Use Diagram* could result in the division of large agricultural parcels into smaller parcels, which could reduce the viability of agricultural operations and increase pressure for urban and rural development. While this would probably not change the overall development estimates as of 2010, it could result in localized areas of rural and urban development in the West/Agriculture area, and would result in increased development potential in this area at buildout.
2. Madera Area: The existing General Plan designates the proposed State Center Community College new growth area for agricultural uses. It is assumed that without the designation of this new growth area, much of the housing development and some of the employment development assumed to occur in the State Center Community College area under the new *General Plan* would be accommodated within the Madera General Plan Area under the City of Madera's General Plan. About 1,500 of the 2,500 housing units estimated to develop in the new growth area under the new *General Plan* and 500 of the 2,050 new employees would be accommodated elsewhere in the Madera area. The other employment is assumed to be fostered by development of the Community College and housing directly related to the college and related employment and would therefore not occur under the existing General Plan.
3. South 41 Corridor Area: The existing General Plan designates the Rio Mesa and Gunner Ranch West new growth areas for agricultural uses. No development potential associated with these areas under the new *General Plan* is assumed to occur under the No Project (Existing General Plan) Alternative.
4. The existing General Plan is not assumed to include roadway improvements identified in the new *Circulation Plan Diagram* for the unincorporated area outside of the City of Madera General Area. Roadway improvements would be assumed to occur in the City of Madera's General Plan, however, consistent with the City's adopted General Plan.

TABLE 9-1

**ALTERNATIVE 1: NO PROJECT (EXISTING GENERAL PLAN) ALTERNATIVE
SUMMARY OF MADERA COUNTY DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT**

No.	Geographic Analysis Area	Size (Ac)	Total in 1990					Total in 2010					Total at Buildout		
			Pop	DUs	HHs	PPH	Emp	Pop	DUs	HHs	PPH	Emp	Pop	DUs	Emp
1	West/Agriculture	272,388	7,903	2,288	2,174	3.64	2,972	11,743	3,396	3,226	3.64	3,400	16,031	4,636	9,666
2	Chowchilla/Fairmead														
	Incorporated Chowchilla	3,867	6,043	2,325	2,209	2.74	1,066	9,501	3,650	3,468	2.74	2,000	14,298	5,493	5,189
	Unincorp. Area	42,396	2,408	757	719	3.35	1,724	3,561	1,119	1,063	3.35	3,530	11,883	3,734	38,449
	Subtotal, Chow/Fair	46,263	8,451	3,082	2,928	2.89	2,790	13,062	4,769	4,531	2.89	5,530	26,181	9,227	43,638
3	Madera Area														
	Madera General Plan Area	18,988	36,588	11,730	11,144	3.28	13,699	67,883	22,330	21,214	3.20	29,220	120,445	39,620	98,556
	State Center CC Area	1,832	67	22	21	3.19	0	67	22	21	3.20	0	67	22	0
	Other unincorp. area	20,950	6,030	1,767	1,679	3.59	1,152	12,318	4,052	3,849	3.20	2,191	13,972	4,596	13,559
	Subtotal, Madera Area	41,770	42,685	13,519	12,843	3.32	14,851	80,268	26,404	25,084	3.20	31,411	134,484	44,238	112,115
4	Raymond/Central	189,403	2,204	763	725	3.04	352	3,613	1,251	1,188	3.04	800	19,430	6,728	3,267
5	South 41 Corridor														
	Rio Mesa	16,140	187	102	97	1.93	0	187	102	97	3.00	0	187	102	0
	Gunner Ranch West	1,135	127	38	36		0	127	38	36	3.00	0	127	38	0
	Remaining area	81,680	8,328	2,557	2,429	3.43	603	13,472	4,727	4,491	3.00	2,575	16,969	5,954	19,558
	Subtotal, South 41	98,955	8,642	2,697	2,562	3.37	603	13,786	4,867	4,624	3.00	2,575	17,283	6,094	19,558
6	North 41 Corridor	189,782	15,910	7,459	7,086	2.25	2,866	33,318	13,489	12,815	2.60	8,300	82,607	33,444	27,078
7	North Fork/Millerton	112,903	2,304	992	942	2.44	586	4,248	1,626	1,545	2.75	1,000	11,505	4,404	4,572
8	East/National Forest	422,435	0	0	0		0	**	400				**	640	0
	Other*						2,525								
	GRAND TOTAL	1,373,899	88,099	30,800	29,260	3.01	27,545	160,038	56,202	53,012	3.02	53,016	307,521	109,411	219,894

Notes:

Pop = Population

DUs = Dwelling units

HHs = Households (a five percent residential vacancy rate is assumed for all dwelling units)

PPH = Population per household

Emp = Employment

* "Other" includes seasonal, mobile agricultural employment that could not be allocated to any particular geographic area

** All units in the "East/National Forest" area are assumed to second homes/vacation homes

TABLE 9-2

ALTERNATIVE 2: REDUCED DEVELOPMENT IN THE SOUTH 41 CORRIDOR AREA
SUMMARY OF MADERA COUNTY DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT

No.	Geographic Analysis Area	Size (Ac)	Total in 1990					Total in 2010					Total at Buildout		
			Pop	DUs	HHs	PPH	Emp	Pop	DUs	HHs	PPH	Emp	Pop	DUs	Emp
1	West/Agriculture	272,388	7,903	2,288	2,174	3.64	2,972	11,743	3,396	3,226	3.64	3,400	16,031	4,636	9,666
2	Chowchilla/Fairmead														
	Incorporated Chowchilla	3,867	6,043	2,325	2,209	2.74	1,066	9,501	3,650	3,468	2.74	2,000	14,298	5,493	5,189
	Unincorp. Area	42,396	2,408	757	719	3.35	1,724	3,561	1,119	1,063	3.35	3,530	11,883	3,734	38,449
	Subtotal, Chow/Fair	46,263	8,451	3,082	2,928	2.89	2,790	13,062	4,769	4,531	2.89	5,530	26,181	9,227	43,638
3	Madera Area														
	Madera General Plan Area	18,988	36,588	11,730	11,144	3.28	13,699	63,323	20,830	19,789	3.20	29,220	120,445	39,620	98,556
	State Center CC Area	1,832	67	22	21	3.19	0	7,600	2,500	2,375	3.20	2,050	13,680	4,500	6,800
	Other unincorp. area	20,950	6,030	1,767	1,679	3.59	1,152	12,318	4,052	3,849	3.20	2,191	13,972	4,596	13,559
	Subtotal, Madera Area	41,770	42,685	13,519	12,843	3.32	14,851	83,241	27,382	26,013	3.20	33,461	148,097	48,716	118,915
4	Raymond/Central	189,403	2,204	763	725	3.04	352	3,613	1,251	1,188	3.04	800	19,430	6,728	3,267
5	South 41 Corridor														
	Rio Mesa	16,140	187	102	97	1.93	0	5,273	1,850	1,758	3.00	1,275	41,975	14,728	22,250
	Gunner Ranch West	1,135	127	38	36		0	2,066	725	689	3.00	2,125	4,295	1,507	4,394
	Remaining area	81,680	8,328	2,557	2,429	3.43	603	13,472	4,727	4,491	3.00	2,575	16,969	5,954	19,558
	Subtotal, South 41	98,955	8,642	2,697	2,562	3.37	603	20,811	7,302	6,937	3.00	5,975	63,239	22,189	46,202
6	North 41 Corridor	189,782	15,910	7,459	7,086	2.25	2,866	33,318	13,489	12,815	2.60	8,300	82,607	33,444	27,078
7	North Fork/Millerton	112,903	2,304	992	942	2.44	586	4,248	1,626	1,545	2.75	1,000	11,505	4,404	4,572
8	East/National Forest	422,435	0	0	0		0	**	400				**	640	0
	Other*						2,525								
	GRAND TOTAL	1,373,899	88,099	30,800	29,260	3.01	27,545	170,036	59,615	56,254	3.02	58,466	367,090	129,984	253,338

Notes:

Pop = Population

DUs = Dwelling units

HHs = Households (a five percent residential vacancy rate is assumed for all dwelling units)

PPH = Population per household

Emp = Employment

* "Other" includes seasonal, mobile agricultural employment that could not be allocated to any particular geographic area

** All units in the "East/National Forest" area are assumed to second homes/vacation homes

TABLE 9-3

**ALTERNATIVE 3: REDUCED DEVELOPMENT IN THE NORTH 41 CORRIDOR AREA
SUMMARY OF MADERA COUNTY DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT**

No.	Geographic Analysis Area	Size (Ac)	Total in 1990					Total in 2010					Total at Buildout		
			Pop	DUs	HHs	PPH	Emp	Pop	DUs	HHs	PPH	Emp	Pop	DUs	Emp
1	West/Agriculture	272,388	7,903	2,288	2,174	3.64	2,972	11,743	3,396	3,226	3.64	3,400	16,031	4,636	9,666
2	Chowchilla/Fairmead														
	Incorporated Chowchilla	3,867	6,043	2,325	2,209	2.74	1,066	9,501	3,650	3,468	2.74	2,000	14,298	5,493	5,189
	Unincorp. Area	42,396	2,408	757	719	3.35	1,724	3,561	1,119	1,063	3.35	3,530	11,883	3,734	38,449
	Subtotal, Chow/Fair	46,263	8,451	3,082	2,928	2.89	2,790	13,062	4,769	4,531	2.89	5,530	26,181	9,227	43,638
3	Madera Area														
	Madera General Plan Area	18,988	36,588	11,730	11,144	3.28	13,699	63,323	20,830	19,789	3.20	29,220	120,445	39,620	98,556
	State Center CC Area	1,832	67	22	21	3.19	0	7,600	2,500	2,375	3.20	2,050	13,680	4,500	6,800
	Other unincorp. area	20,950	6,030	1,767	1,679	3.59	1,152	12,318	4,052	3,849	3.20	2,191	13,972	4,596	13,559
	Subtotal, Madera Area	41,770	42,685	13,519	12,843	3.32	14,851	83,241	27,382	26,013	3.20	33,461	148,097	48,716	118,915
4	Raymond/Central	189,403	2,204	763	725	3.04	352	3,613	1,251	1,188	3.04	800	19,430	6,728	3,267
5	South 41 Corridor														
	Rio Mesa	16,140	187	102	97	1.93	0	10,545	3,700	3,515	3.00	2,550	83,950	29,456	44,500
	Gunner Ranch West	1,135	127	38	36		0	4,133	1,450	1,378	3.00	4,250	8,590	3,014	8,788
	Remaining area	81,680	8,328	2,557	2,429	3.43	603	13,472	4,727	4,491	3.00	2,575	16,969	5,954	19,558
	Subtotal, South 41	98,955	8,642	2,697	2,562	3.37	603	28,149	9,877	9,383	3.00	9,375	109,509	38,424	72,846
6	North 41 Corridor	189,782	15,910	7,459	7,086	2.25	2,866	16,659	6,745	6,407	2.60	4,150	82,607	33,444	27,078
7	North Fork/Millerton	112,903	2,304	992	942	2.44	586	4,248	1,626	1,545	2.75	1,000	11,505	4,404	4,572
8	East/National Forest	422,435	0	0	0		0	**	400				**	640	0
	Other*						2,525								
	GRAND TOTAL	1,373,899	88,099	30,800	29,260	3.01	27,545	160,716	55,446	52,293	3.07	57,716	413,360	146,219	279,982

Notes:

Pop = Population

DUs = Dwelling units

HHs = Households (a five percent residential vacancy rate is assumed for all dwelling units)

PPH = Population per household

Emp = Employment

* "Other" includes seasonal, mobile agricultural employment that could not be allocated to any particular geographic area

** All units in the "East/National Forest" area are assumed to second homes/vacation homes

TABLE 9-4

**ALTERNATIVE 4: REDUCED DEVELOPMENT IN THE SOUTH 41 AND NORTH 41 CORRIDOR AREAS
SUMMARY OF MADERA COUNTY DEVELOPMENT ESTIMATES
1990, 2010, AND BUILDOUT**

No.	Geographic Analysis Area	Size (Ac)	Total in 1990					Total in 2010					Total at Buildout		
			Pop	DUs	HHs	PPH	Emp	Pop	DUs	HHs	PPH	Emp	Pop	DUs	Emp
1	West/Agriculture	272,388	7,903	2,288	2,174	3.64	2,972	11,743	3,396	3,226	3.64	3,400	16,031	4,636	9,666
2	Chowchilla/Fairmead														
	Incorporated Chowchilla	3,867	6,043	2,325	2,209	2.74	1,066	9,501	3,650	3,468	2.74	2,000	14,298	5,493	5,189
	Unincorp. Area	42,396	2,408	757	719	3.35	1,724	3,561	1,119	1,063	3.35	3,530	11,883	3,734	38,449
	Subtotal, Chow/Fair	46,263	8,451	3,082	2,928	2.89	2,790	13,062	4,769	4,531	2.89	5,530	26,181	9,227	43,638
3	Madera Area														
	Madera General Plan Area	18,988	36,588	11,730	11,144	3.28	13,699	63,323	20,830	19,789	3.20	29,220	120,445	39,620	98,556
	State Center CC Area	1,832	67	22	21	3.19	0	7,600	2,500	2,375	3.20	2,050	13,680	4,500	6,800
	Other unincorp. area	20,950	6,030	1,767	1,679	3.59	1,152	12,318	4,052	3,849	3.20	2,191	13,972	4,596	13,559
	Subtotal, Madera Area	41,770	42,685	13,519	12,843	3.32	14,851	83,241	27,382	26,013	3.20	33,461	148,097	48,716	118,915
4	Raymond/Central	189,403	2,204	763	725	3.04	352	3,613	1,251	1,188	3.04	800	19,430	6,728	3,267
5	South 41 Corridor														
	Rio Mesa	16,140	187	102	97	1.93	0	5,273	1,850	1,758	3.00	1,275	20,987	14,728	22,250
	Gunner Ranch West	1,135	127	38	36		0	2,066	725	689	3.00	2,125	2,147	1,507	4,394
	Remaining area	81,680	8,328	2,557	2,429	3.43	603	13,472	4,727	4,491	3.00	2,575	16,969	5,954	19,558
	Subtotal, South 41	98,955	8,642	2,697	2,562	3.37	603	20,811	7,302	6,937	3.00	5,975	40,104	22,189	46,202
6	North 41 Corridor	189,782	15,910	7,459	7,086	2.25	2,866	16,659	6,745	6,407	2.60	4,150	82,607	33,444	27,078
7	North Fork/Millerton	112,903	2,304	992	942	2.44	586	4,248	1,626	1,545	2.75	1,000	11,505	4,404	4,572
8	East/National Forest	422,435	0	0	0		0	**	400				**	640	0
	Other*						2,525								
	GRAND TOTAL	1,373,899	88,099	30,800	29,260	3.01	27,545	153,377	52,871	49,847	3.08	54,316	343,955	129,984	253,338

Notes:

Pop = Population

DUs = Dwelling units

HHs = Households (a five percent residential vacancy rate is assumed for all dwelling units)

PPH = Population per household

Emp = Employment

* "Other" includes seasonal, mobile agricultural employment that could not be allocated to any particular geographic area

** All units in the "East/National Forest" area are assumed to second homes/vacation homes

Land Use, Housing, and Population

This alternative differs from the new *General Plan* primarily in that the three new growth areas provided for under the new *General Plan* would continue with an agricultural designation. Pressure for conversion of agricultural and other open space lands in southern Madera County could result in piecemeal conversion of agricultural areas in southern Madera County in the form of general plan amendments because of demand for development in this area, without an overall framework for development in these areas.

While the existing General Plan contains some minor inconsistencies with the adopted city general plans, development in the cities' spheres of influence is still assumed to occur consistent with the adopted city plans. The existing General Plan is generally consistent with the *Airport Land Use Compatibility Plan*, the *Sierra National Forest Land and Resource Management Plan*, and the *San Joaquin River Parkway Plan*.

Continued reliance on the existing general plan land use designations and policies creates a less explicit statement of allowable uses and development requirements, allowing more opportunities for incompatible development and a less clear vision of the County's intended land uses and requirements. The land use policies of the existing General Plan are very dated and tend to be overly general, without specific policy and program direction.

Housing, population, and employment growth is assumed to be lower under the No Project (Existing General Plan) Alternative than under the new *General Plan*, primarily because the new growth areas provide for under the new *General Plan* are assumed to accommodate persons and employment that would otherwise locate in Fresno County. The No Project (Existing General Plan) Alternative would accommodate a total of 160,000 persons in 2010, 17,000 fewer than estimated under the new *General Plan* and 53,000 employees, 8,800 fewer than the new *General Plan*. The existing General Plan would continue to be consistent with the County's adopted *Housing Element*.

Transportation

Two projections of traffic were made for the No-Project Alternative. In Figures 9-1 and 9-2, results are shown for an assignment of the No-Project traffic onto the 1990 highway network. This is a "worst case" scenario that assumes no additional capacity will be added to the network in the next 16 years as the existing General Plan does not directly provide any programs to address traffic improvements. In all the traffic figures in this chapter, significant changes in service levels between the new *General Plan* and each alternative are shown. Significant changes include any segment which would operate between Service Level C and Service Level F in either of the alternatives. If the service level did not change, or if the changes were between Levels A and B, no information is shown on the figures.

Figures 9-1 and 9-2 indicate that significant increases in congestion would occur on SR 41 south of SR 145 and on Avenue 12 east of Road 36 under the No-Project (Existing General Plan) Alternative compared to the new *General Plan*. A decline of one service level is also projected on the northern half of SR 99 within the city of Madera. In all other locations shown on these two figures, the No-Project (Existing General Plan) Alternative would result in an improvement in service levels, due to the reduction in land use intensity. The County's service level policy of D would be exceeded on SR 99, on SR 41 south of Avenue 10, and on Avenue 12 east of Road 36 under the No Project (Existing General Plan) Alternative.

Figures 9-3 and 9-4 show the results of assigning the No Project (Existing General Plan) Alternative traffic to the improvements of the new *General Plan* highway network. Because of the reduction in land use intensity and the additional capacity added to the network, the No-Project (Existing General Plan) Alternative would result in equal or improved service levels on all portions of the network compared to the new *General Plan*, although it should be noted that due to lower levels of development, higher traffic fees or per capita costs would be required to make such improvements. The County's service level standard would be exceeded only on SR 99 south of the city of Madera.

The No Project (Existing General Plan) Alternative would generally promote low density, rural development that does not foster transit or non-automotive forms of travel, and would not adversely impact air transportation.

Public Facilities and Services

Most of the impacts on public facilities and services associated with the new *General Plan* would occur under the existing General Plan. While the existing General Plan would not have the public facilities needs associated with the new growth areas, the comprehensive nature of infrastructure planning for these new growth areas would allow for master public infrastructure plans and financing mechanisms that would generally be provided by new development. The new *General Plan* includes explicit requirements for new development to provide for adequate public facilities and services which are not included in the existing General Plan, although many of the provisions are addressed in current County regulations and requirements.

The impacts on water supply and in the foothills and mountain areas would generally be the same as under the new *General Plan*. Although the existing General Plan states its support for development of a new surface water supply to serve the foothill/mountain areas, it includes no feasible program to develop such a source.

The existing General Plan would have significant impacts on nearly every school district in the county; although it would require the development of fewer new schools in the Madera Unified School District and Chawanakee School District than the new *General Plan* because no new development is provided for in new growth areas. The new *General Plan* includes policies to address mitigation of school impacts. Under the existing General Plan, only currently available developer impact fees are guaranteed, which would not adequately provide for school facility needs required by new development.

Additional funding would also be required in connection with providing educational services and ongoing operations and maintenance. Because of state budgetary constraints, funding for schools has become more limited, and growth within the school districts in Madera County will require increased state funding. The County cannot guarantee that adequate funding levels will be available to provide for maintenance of levels of funding in these school districts.

Recreational and Cultural Resources

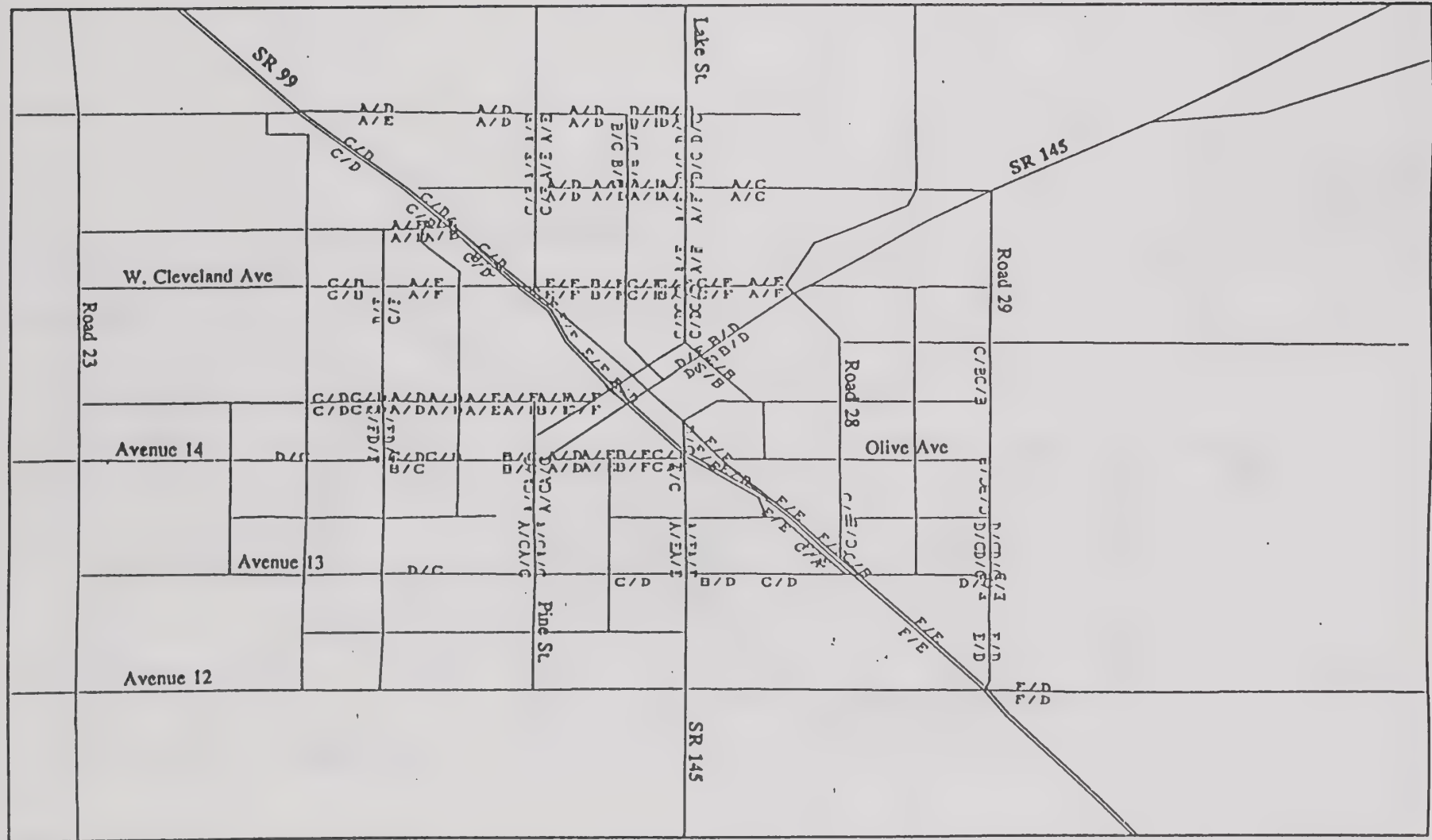
The existing General Plan states its support for development of several new park facilities in the county, some of which have been developed since the plan's adoption in 1969. Those that have not been developed by the state and federal government are not likely to be developed by the county as the plan provides no park standards or mechanism for development of new parks. The new *General Plan* includes park standards and requires new development to address park facilities.

**COMPARISON OF SERVICE LEVELS OF DRAFT GENERAL PLAN
TO ALTERNATIVE 1: NO PROJECT ALTERNATIVE
Assuming No Roadway Network Improvements**



FIGURE 9-2

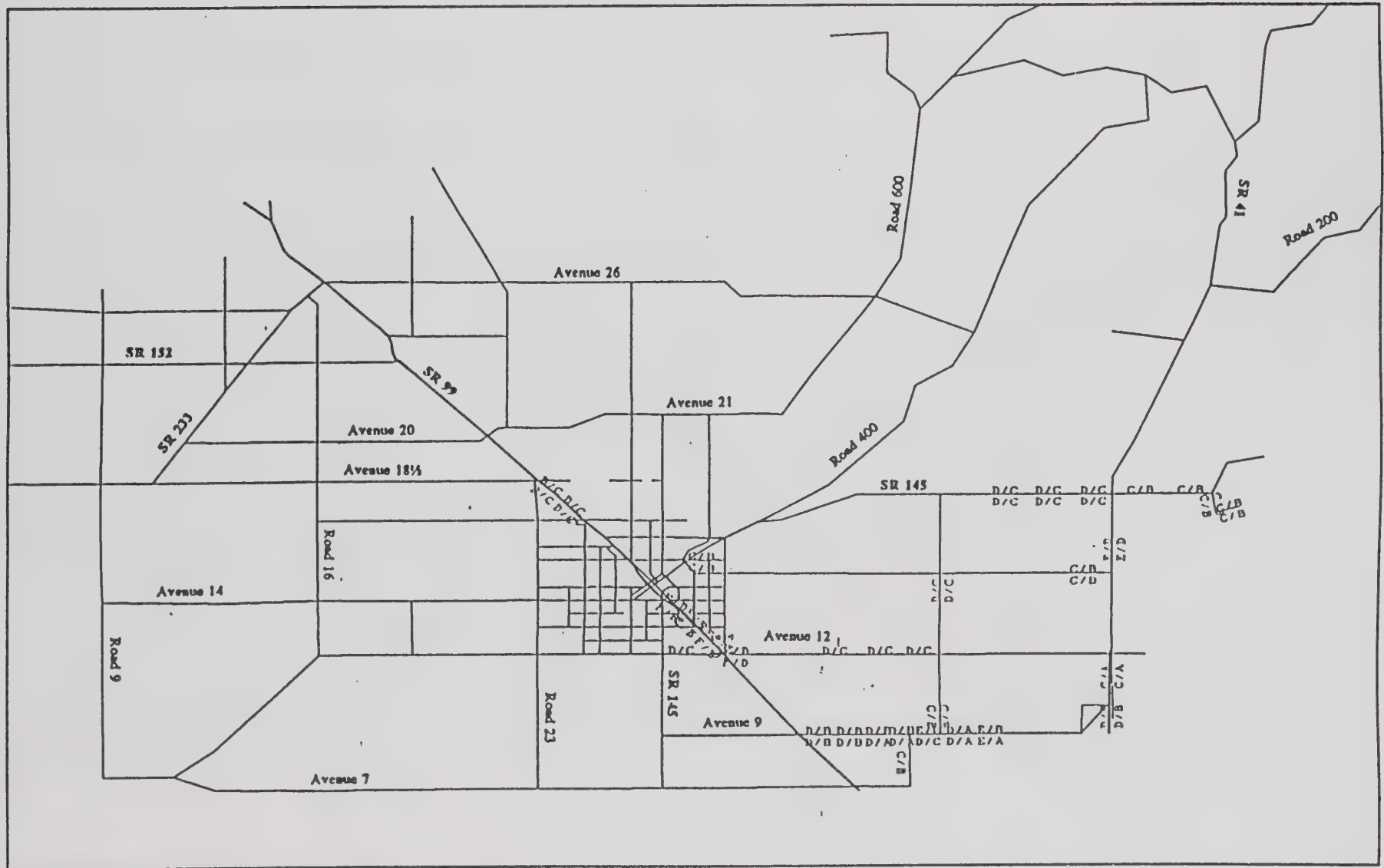
COMPARISON OF SERVICE LEVELS OF DRAFT GENERAL PLAN
TO ALTERNATIVE 1: NO PROJECT ALTERNATIVE
CITY OF MADERA AREA
Assuming No Roadway Network Improvements



Key: "A/C" = Draft General Plan Service Level/Alternative 1 Service Level

FIGURE 9-3

COMPARISON OF SERVICE LEVELS OF DRAFT GENERAL PLAN
TO ALTERNATIVE 1: NO PROJECT ALTERNATIVE
Assuming Roadway Network Improvements



Key: "A/C" = Draft General Plan Service Level/Alternative 1 Service Level

FIGURE 9-4

COMPARISON OF SERVICE LEVELS OF DRAFT GENERAL PLAN
TO ALTERNATIVE 1: NO PROJECT ALTERNATIVE
CITY OF MADERA AREA
Assuming Roadway Network Improvements



Key: "A/C" = Draft General Plan Service Level/Alternative 1 Service Level

Impacts on cultural resources would generally be the same or more significant than under the new *General Plan*, as the new *General Plan* provides a more comprehensive set of policies and programs to identify and preserve cultural resources.

Agricultural and Natural Resources

The No Project Alternative would result in the conversion of less prime agricultural lands and lands of statewide importance than the new *General Plan* as it designates no new growth areas for new development. In other areas, however, the existing General Plan provides for less protection of agricultural lands than the new *General Plan*, as it provides for less restrictive agricultural designations which allow smaller lot sizes, provides more latitude for rural residential development, and could foster conversions of agricultural land and make commercial farming and grazing less feasible.

The impacts on biological resources identified in the analysis of the new *General Plan* in the new growth areas would not occur under the existing General Plan. In particular, losses of wetlands, riparian habitat, and associated species in the Rio Mesa new growth area would generally not occur, although some agricultural practices could also degrade habitat. Impacts from rural development in the foothills and mountain communities would be the same or worse than under the new *General Plan*, as the plan contains policies and programs to reduce impacts on biological resources that are not included in the existing General Plan. Some of these policies or programs are reflected in state and federal regulatory requirements; however, a more comprehensive and complete preservation would occur with the new *General Plan* policies and programs. Habitat loss from conversion of habitat areas to agriculture could occur under the existing General Plan in the same manner as under the new *General Plan*, although the new *General Plan* explicitly encourages increased agricultural activities not described under the existing General Plan.

Impacts on air quality would still be significant, albeit less than under the new *General Plan* because of lower population and traffic volumes. New development would be accommodated primarily in a lower intensity, rural style of development that inhibits effective use of transit or non-automotive forms of travel.

Health and Safety

Impacts on health and safety under the No Project (Existing General Plan) Alternative would be similar to those under the new *General Plan*, although a lower population would be exposed to potential risks in southern Madera County. The new *General Plan* contains a more comprehensive body of policy to address health and safety issues than the existing General Plan, although some of these issues are addressed in County regulations or by state and federal requirements.

Noise impacts would be similar to those under the new *General Plan* although to a lesser extent because of the lower traffic volumes under the existing General Plan.

Alternative 2: Reduced Development in the South 41 Corridor Area

This alternative would differ from the new *General Plan* only in the amount of land designated for new development in the South 41 Corridor area. While some new development would be permitted in the Gunner Ranch West and Rio Mesa new growth areas, it would be less than half that designated under the new *General Plan*. Reductions only in the new growth areas are assumed under this alternative; other areas in the South 41 Corridor area designated for development under the existing and new *General Plan*

are approved subdivisions (e.g., Bonadelle Ranchos, Madera Ranchos, Rolling Hills) that have already received entitlements, so reduction in development potential in these areas is not considered feasible. Table 9-2 summarizes the development potential according to this alternative at 2010 and buildout.

Other than the change in the new *General Plan's Land Use Diagram*, the roadway network improvements assumed under the new *General Plan* and the relevant goals, policies, and implementation programs would be included under this alternative.

Land Use, Housing, and Population

This alternative would differ from the new *General Plan* primarily in that the two new growth areas in southern Madera County would be reduced in size; the remainder would be designated for agricultural uses.

Alternative 2 would have impacts similar to the new *General Plan* in terms of its land use impacts.

Housing, population, and employment growth is assumed to be lower under Alternative 2 than under the new *General Plan*, primarily because the new growth areas provided for under the new *General Plan* are assumed to accommodate fewer persons and employment that would otherwise locate in Fresno County. Alternative 2 would accommodate a total of 170,000 persons, 7,300 fewer than estimated under the new *General Plan* and 58,500 employees, 3,400 fewer than the new *General Plan*.

Transportation

Figures 9-5 and 9-6 document the projected changes in traffic service levels under Alternative 2 compared to the new *General Plan*. They are largely confined to the South SR 41 corridor itself and the roads feeding this corridor. In all cases, the service level would remain unchanged or improve by a single level. The forecast also indicates that SR 99 in the northern portion of the city of Madera would be slightly improved as well.

Impacts on other forms of transportation would be similar to those under the new *General Plan*, although development in the new growth areas would not reach threshold levels to support public transit within the time frame of the plan.

Public Facilities and Services

Most of the impacts on public facilities and services associated with the new *General Plan* would occur under Alternative 2. While the public facilities needs associated with the new growth areas would be lower, the comprehensive nature of infrastructure planning for these new growth areas would allow for master public infrastructure plans and financing mechanisms that would generally be provided by new development.

The impacts on water supply and in the foothills and mountain areas would generally be the same as under the new *General Plan*.

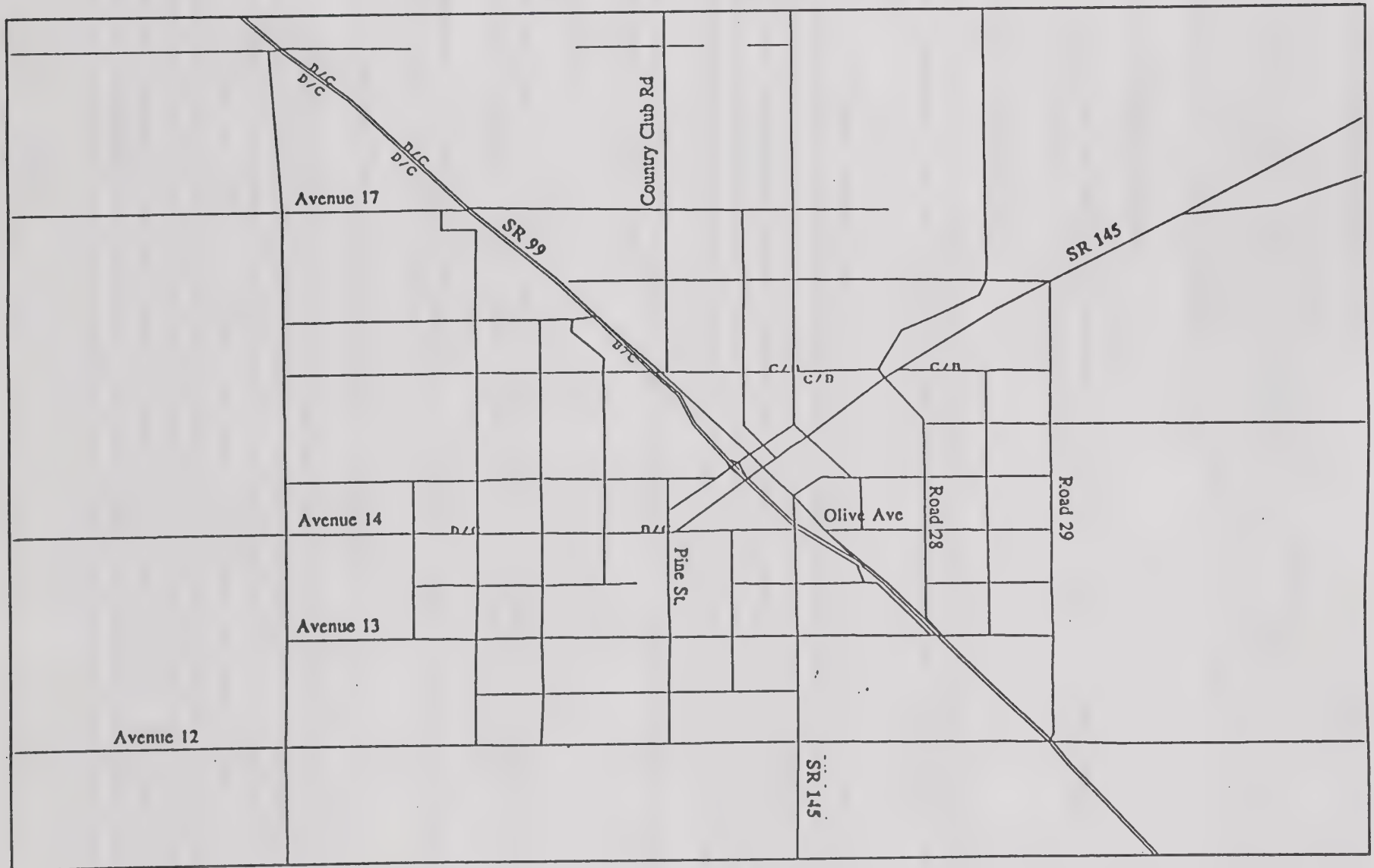
Alternative 2 would require development of new schools in almost every school district in the county, although it would require the development of fewer new schools in the Madera Unified School District and Chawanakee School District than the new *General Plan* because of lower development levels in the new growth areas.

**COMPARISON OF SERVICE LEVELS OF DRAFT GENERAL PLAN
TO ALTERNATIVE 2: REDUCED DEVELOPMENT IN THE SOUTH 41 CORRIDOR AREA**



FIGURE 9-6

COMPARISON OF SERVICE LEVELS OF DRAFT GENERAL PLAN
TO ALTERNATIVE 2: REDUCED DEVELOPMENT IN THE SOUTH 41 CORRIDOR AREA
CITY OF MADERA AREA



Key: "A/C" = Draft General Plan Service Level/Alternative 2 Service Level

Additional funding would also be required in connection with providing educational services and ongoing operations and maintenance. Because of state budgetary constraints, funding for schools has become more limited, and growth within the school districts in Madera County will require increased state funding. The County cannot guarantee that adequate funding levels will be available to provide for maintenance of levels of funding in these school districts.

Recreational and Cultural Resources

Impacts on recreational and cultural resources would generally be the same or less significant than under the new *General Plan*, due to lower development levels.

Agricultural and Natural Resources

Alternative 2 would result in the conversion of less prime agricultural lands and lands of statewide importance than the new *General Plan* as it designates less agricultural and in new growth areas for new development.

The impacts on biological resources identified in the analysis of the new *General Plan* in the new growth areas would be reduced under Alternative 2. In particular, depending on the plan for the Rio Mesa Area, losses of wetlands, riparian habitat, and associated species in the Rio Mesa new growth area would be reduced or could be more easily avoided. Impacts from rural development in the foothills and mountain communities would be the same as under the new *General Plan*. Habitat loss from conversion of habitat areas to agriculture could occur under Alternative 2 in the same manner as under the new *General Plan*.

Impacts on air quality would still be significant, albeit less than under the new *General Plan* because of lower population and traffic volumes.

Health and Safety

Impacts on health and safety under Alternative 2 would be similar to those under the new *General Plan*, although a lower population would be exposed to potential risks in southern Madera County.

Noise impacts would be similar to those under the new *General Plan* although to a lesser extent because of the lower traffic volumes under Alternative 2.

Alternative 3: Reduced Development in the North 41 Corridor Area

The land uses designated in the North 41 Corridor area under this alternative would not differ from the new *General Plan*. Growth in the North 41 Corridor would be regulated below the estimates assumed for the new *General Plan*, however, by inclusion of a policy and implementation for a program to limit development in this area. The new *General Plan Land Use Diagram* designates no new land for development the North 41 Corridor Area, it is a reflection of land already designated for development under the existing *General Plan*. Therefore, the only ways of reducing development potential in this area would involve downzoning of land in this area or instituting a growth control program which would limit the amount of development that could occur in this area. While both of these would be difficult, developing a growth control program was considered to be a more feasible way to limit growth in this area.

This alternative assumes half of the new housing and employment potential in the North 41 Corridor Area compared to the new *General Plan*. Table 9-3 summarizes the development potential according to this alternative at 2010 and buildout. Because no changes in land use designation are assumed, there would be no change in the buildout capacity of this alternative compared to the new *General Plan*.

Land Use, Housing, and Population

The land use diagram under Alternative 3 would not differ from the *Draft General Plan*; population growth would be restricted below market-driven rates by institution of a growth control program to limit population growth in the North 41 Corridor area.

Alternative 3 would have similar impacts to the new *General Plan* in terms of its land use impacts.

Housing, population, and employment growth is assumed to be lower under Alternative 3 than under the new *General Plan*. Alternative 3 would accommodate a total of 160,700 persons in 2010, 16,700 fewer than estimated under the new *General Plan* and 57,700 employees, 3,100 fewer than the new *General Plan*.

Limiting the number of housing units that could be developed could serve to increase land and associated housing costs, affecting the affordability of housing in the area. While growth control measures typically exempt or provide incentives for the development of lower income housing, they can still pose a constraint to the development of low and moderate income housing. While Alternative 3 would probably be consistent with the County's current *Housing Element* in that it would not restrict site availability, it would be an issue that would require examination in future updates of the *Housing Element*.

Transportation

Figures 9-7 and 9-8 illustrate the impacts of Alternative 3 in comparison to the new *General Plan*. Because of the reduction of employment, there is projected to be some redistribution of work-related travel. As a result, the service level on SR 41 is projected to deteriorate to Level E north of SR 145 as well as south of Avenue 10. There would be a slight improvement on SR 41 north of Oakhurst. No other significant impacts are projected from this scenario.

Impacts on other forms of transportation would be similar to those under the new *General Plan*.

Public Facilities and Services

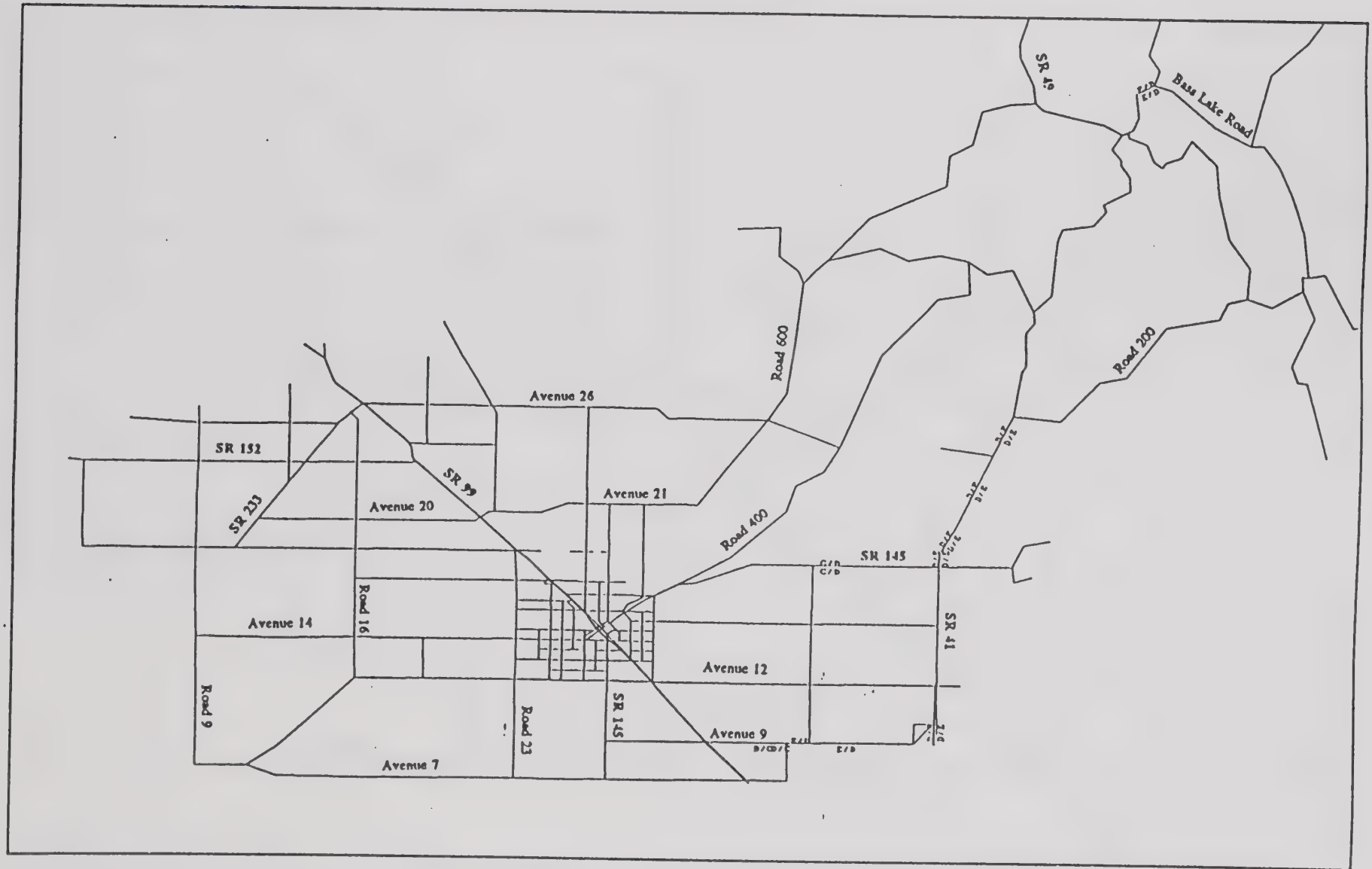
Most of the impacts on public facilities and services associated with the new *General Plan* would occur under Alternative 3. The impacts on water supply and in the foothills and mountain areas would be less than under the new *General Plan*.

Alternative 3 would require development of new schools in almost every school district in the county, although it would require the development of fewer new schools in the Coarsegold and Chawanakee Elementary School Districts and Yosemite High School District than the new *General Plan* because of lower development levels in the North 41 Corridor area.

Additional funding would also be required in connection with providing educational services and ongoing operations and maintenance. Because of state budgetary constraints, funding for schools has become more limited, and growth within the school districts in Madera County will require increased state

FIGURE 9-7

COMPARISON OF SERVICE LEVELS OF DRAFT GENERAL PLAN
TO ALTERNATIVE 3: REDUCED DEVELOPMENT IN THE NORTH 41 CORRIDOR AREA



Key: "A/C" = Draft General Plan Service Level/Alternative 3 Service Level

FIGURE 9-8

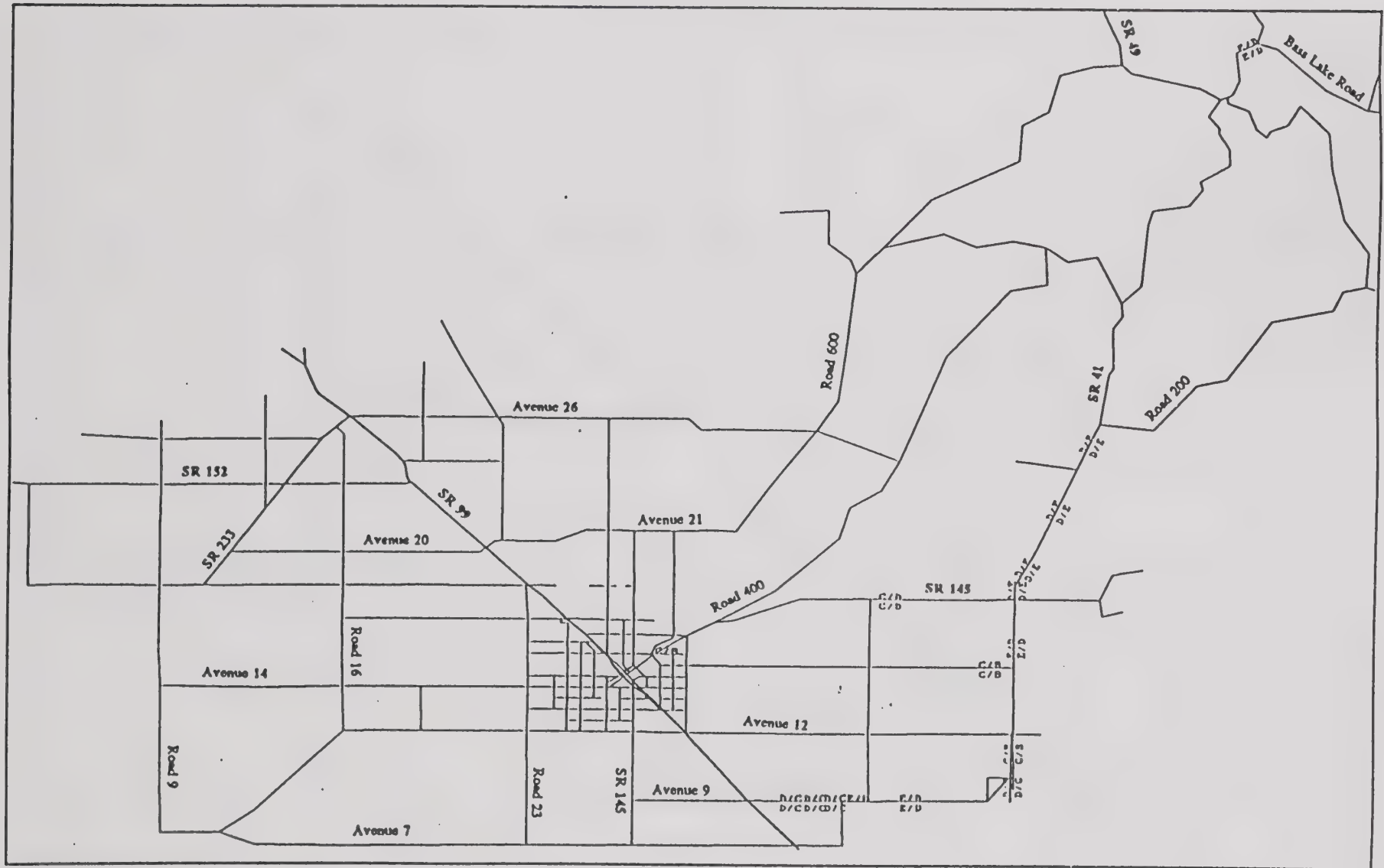
COMPARISON OF SERVICE LEVELS OF DRAFT GENERAL PLAN
TO ALTERNATIVE 3: REDUCED DEVELOPMENT IN THE NORTH 41 CORRIDOR AREA
CITY OF MADERA AREA



Key: "A/C" = Draft General Plan Service Level/Alternative 3 Service Level

FIGURE 9-9

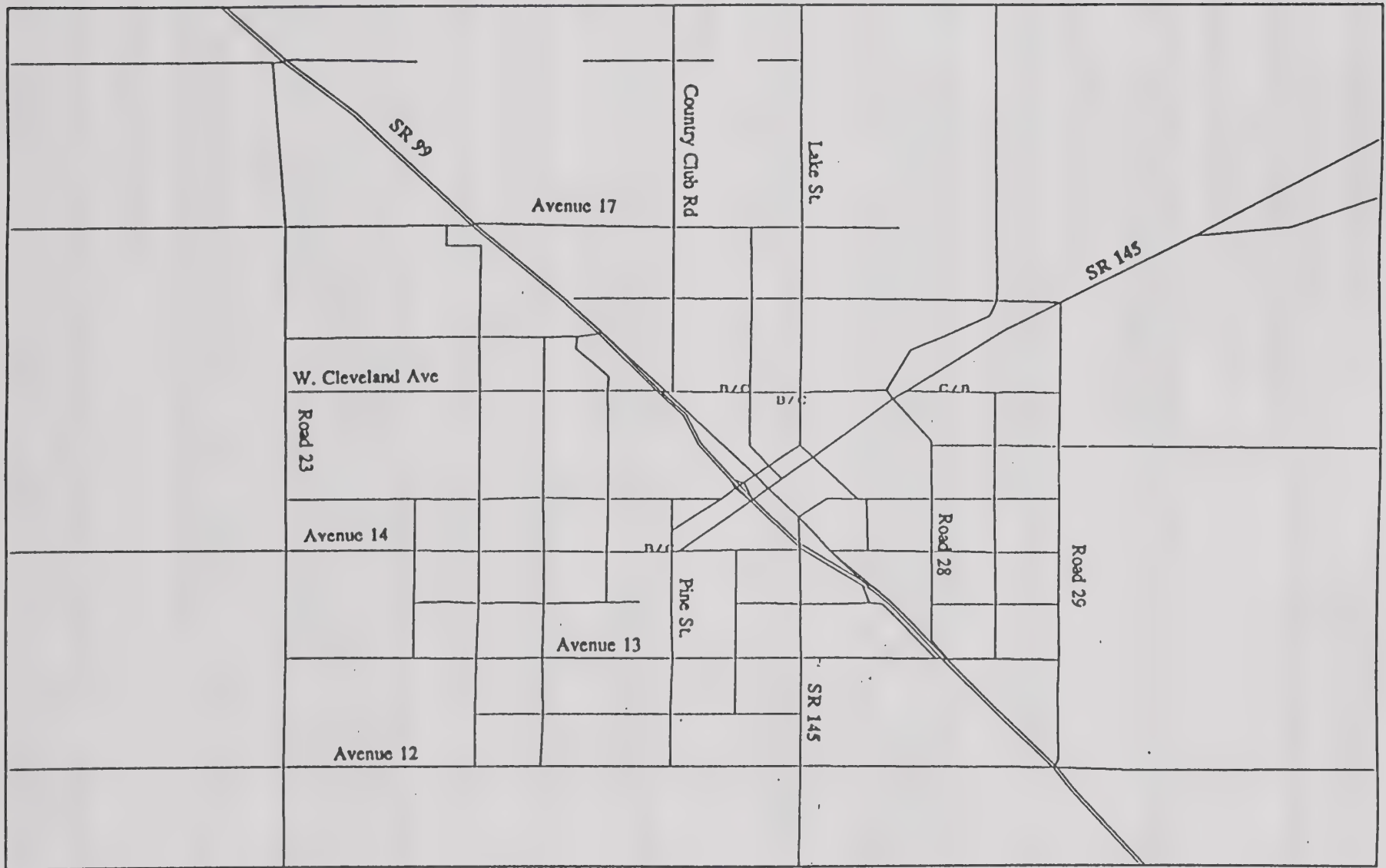
COMPARISON OF SERVICE LEVELS OF DRAFT GENERAL PLAN
TO ALTERNATIVE 4: REDUCED DEVELOPMENT IN THE SOUTH 41 AND NORTH 41 CORRIDOR AREAS



Key: "A/C" = Draft General Plan Service Level/Alternative 4 Service Level

FIGURE 9-10

COMPARISON OF SERVICE LEVELS OF DRAFT GENERAL PLAN
TO ALTERNATIVE 4: REDUCED DEVELOPMENT IN THE SOUTH 41 AND NORTH 41 CORRIDOR AREAS
CITY OF MADERA AREA



Key: "A/C" = Draft General Plan Service Level/Alternative 4 Service Level

funding. The County cannot guarantee that adequate funding levels will be available to provide for maintenance of levels of funding in these school districts.

Recreational and Cultural Resources

Impacts on recreational and cultural resources would generally be the same or less significant than under the new *General Plan*, due to lower development levels.

Agricultural and Natural Resources

Alternative 3 would result in the conversion of less grazing land than the new *General Plan* as it would result in less new development in the North 41 Corridor area.

The impacts on biological resources identified in the analysis of the new *General Plan* in the new growth areas would be the same under Alternative 3. Impacts from rural development in the foothills and mountain communities would be reduced compared to the new *General Plan*. Habitat loss from conversion of habitat areas to agriculture could occur under Alternative 2 in the same manner as under the new *General Plan*.

Impacts on air quality would still be significant, albeit less than under the new *General Plan* because of lower population and traffic volumes.

Health and Safety

Impacts on health and safety under Alternative 3 would be similar to those under the new *General Plan*, although a lower population would be exposed to potential risks in the North 41 Corridor Area; this is most significant in terms of risks associated with wildfires.

Noise impacts would be similar to those under the new *General Plan* although to a lesser extent because of the lower traffic volumes under Alternative 3.

Alternative 4: Reduced Development in the South 41 Corridor Area and North 41 Corridor Area

This alternative is a combination of Alternatives 2 and 3. Under this alternative, development would be reduced in both the North and South 41 Corridor geographic analysis areas compared with the new *General Plan*. This would involve designating less land in the Rio Mesa and Gunner Ranch West new growth areas than under the new *General Plan* and enacting a growth control program to limit development in the North 41 Corridor area. Table 9-4 summarizes the development estimates at 2010 and buildout under this alternative.

The roadway network improvements assumed under the new *General Plan* and the relevant goals, policies, and implementation programs would be included under this alternative.

Land Use, Housing, and Population

The land use diagram under Alternative 4 would differ from the new *General Plan* only in the South 41 Corridor Area where the Rio Mesa and Gunner Ranch West new growth areas would be designated at half the levels of the new *General Plan*. In addition, population growth would be restricted below

market-driven rates by institution of a growth control program to limit population growth in the North 41 Corridor area.

Alternative 4 would have similar impacts to the new *General Plan* in terms of its land use impacts.

Under Alternative 4, housing, population, and employment growth is assumed to be lowest of all the alternatives. Alternative 4 would accommodate a total of 153,400 persons in 2010, 24,000 fewer than estimated under the new *General Plan* and 54,300 employees, 7,600 fewer than the new *General Plan*.

Limiting the number of housing units that could be developed could serve to increase land and associated housing costs, affecting the affordability of housing in the area. While growth control measures typically exempt or provide incentives for the development of lower income housing, they can still pose a constraint to the development of low and moderate income housing. While Alternative 4 would probably be consistent with the County's current *Housing Element* in that it would not restrict site availability, it would be an issue that would require examination in future updates of the *Housing Element*.

Transportation

Figures 9-9 and 9-10 show traffic service levels under Alternative 4 compared to the new *General Plan*. Traffic service levels would deteriorate on SR 41 north of SR 145. A slight improvement would be seen on SR 41 north of Oakhurst and south of Avenue 12. Changes of a single service level are also projected on portions of Avenue 9.

Impacts on other forms of transportation would be similar to those under the new *General Plan*, although development in the new growth areas in southern Madera County would not reach threshold levels to support public transit.

Public Facilities and Services

Most of the impacts on public facilities and services associated with the new *General Plan* would occur under Alternative 4. The impacts on water supply and in the foothills and mountain areas would be less than under the new *General Plan*.

Alternative 4 would require development of new schools in almost every school district in the county, although it would require the development of fewer new schools in the Madera Unified, Coarsegold and Chawanakee Elementary School Districts, and Yosemite High School District than the new *General Plan* because of lower development levels in the South 41 and North 41 Corridor areas.

Additional funding would also be required in connection with providing educational services and ongoing operations and maintenance. Because of state budgetary constraints, funding for schools has become more limited, and growth within the school districts in Madera County will require increased state funding. The County cannot guarantee that adequate funding levels will be available to provide for maintenance of levels of funding in these school districts.

Recreational and Cultural Resources

Impacts on recreational and cultural resources would generally be the same or less significant than under the new *General Plan*, due to lower development levels.

Agricultural and Natural Resources

Alternative 4 would result in the conversion of less prime agricultural land in the new growth areas and less grazing land than the new *General Plan*.

The impacts on biological resources identified in the analysis of the new *General Plan* in the new growth areas would be less under Alternative 4 than under the new *General Plan*. In particular, depending on the plan for the Rio Mesa Area, losses of wetlands, riparian habitat, and associated species in the Rio Mesa new growth area would be reduced or could be more easily avoided. Impacts from rural development in the foothills and mountain communities would be reduced compared to the new *General Plan*. Habitat loss from conversion of habitat areas to agriculture could occur under Alternative 4 in the same manner as under the new *General Plan*.

Impacts on air quality would still be significant, albeit less than under the new *General Plan* because of lower population and traffic volumes, and less commuting to jobs in Fresno County.

Health and Safety

Impacts on health and safety under Alternative 4 would be similar to those under the new *General Plan*, although a lower population would be exposed to potential risks in the South and North 41 Corridor areas; this is most significant in terms of risks associated with wildfires in the North 41 Corridor area.

Noise impacts would be similar to those under the new *General Plan* although to a lesser extent because of the lower traffic volumes under Alternative 4.

In summary, Alternative 4 would be the environmentally superior alternative, as the lower population growth in the South 41 Corridor and North 41 Corridor areas would result in a lower level of impacts in many areas. This alternative would not achieve many of the objectives of the General Plan Update in terms of providing for economic growth; in addition, moratoriums on development might result in increased housing prices and slow economic development in the county.

9.3 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE OF LONG-TERM PRODUCTIVITY

CEQA requires that EIRs assess the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. In doing so, the *CEQA Guidelines* state that an EIR should "describe the cumulative and long-term effects of the proposed project which adversely affect the state of the environment." Special attention should be given to impacts which narrow the range of beneficial uses of the environment or pose long-term risks to health or safety. In addition, the reasons why the proposed project is believed by the sponsor to be justified now, rather than reserving an option for further alternatives, should be explained.

By virtue of its designation of substantial new growth areas, the *General Plan* represents a first step in committing the environment to uses that may limit "long-term" productivity, particularly with respect to agricultural land and production and plant and wildlife habitat. The *Plan* does, however, provide a comprehensive countywide framework for making trade-offs among competing values and interests within both short-term and long-term time frames. It also sets out policies and programs to address the potentially adverse effects of new development in areas where long-term uses could be compromised.

9.4 SIGNIFICANT IRREVERSIBLE EFFECTS

CEQA requires that EIRs describe any significant irreversible environmental changes which would be involved in the proposed action should it be implemented.

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as a highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Conversion of agricultural and open space lands are considered irreversible environmental changes resulting from the *General Plan* and conversion of fish and wildlife habitat areas.

9.5 GROWTH-INDUCING IMPACTS

CEQA requires that EIRs address the growth-inducing impact of the proposed action. According to the *CEQA Guidelines*, EIRs must discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities, so consideration must be given to this impact. The *Guidelines* also calls for EIRs to discuss the characteristic of some projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Arguably, any general plan that designates undeveloped land for future development can be defined as "growth-inducing." Since the County's objectives in updating its General Plan include promotion of economic development and accommodation of demand for residential growth, this is the case with the *General Plan*, particularly with respect to designated new growth areas. In promoting such development and accommodating such growth, the *General Plan*, however, attempts to address the potentially adverse implications through policies, programs, and proposals for adequate infrastructure, promotion of a reasonable balance between jobs and housing, and protection of environmentally-sensitive resources.

9.6 CUMULATIVE IMPACTS

The *CEQA Guidelines* requires a discussion of the potential cumulative impacts that could result from a proposed project in conjunction with other projects in the vicinity. Cumulative impacts occur when two or more individual effects together create a significant environmental impact, or if they compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place simultaneously or over time.

As a practical matter, an EIR on a comprehensive general plan update is an assessment of the cumulative impacts of development within the area covered by the plan, particularly in the case of a county general plan, as it looks at the cumulative impacts of projected development over an extended time frame. The topic area impact analyses contained in this *DEIR* are, in effect, cumulative analyses because they examine the effects of growth in incorporated cities in addition to growth in unincorporated areas as

envisioned under this plan. On a large cumulative scale, the traffic section (and, by association, air quality and noise) takes into account regional effects. The *General Plan* sets out policies and programs to address the potentially adverse cumulative effects of new development.

The geographic focus of the analysis of cumulative impacts varies by issue area. Analysis of some impacts, such as for school districts, is done according to jurisdictional boundaries. Other impact areas are analyzed by physical boundaries, such as air basins. The following describes cumulative impacts where the cumulative area covers an area outside the county. Other cumulative impacts are addressed in the each of the topical chapters of this *DEIR*.

Land Use and Agricultural Resources

The cumulative land use analysis focuses on proposed development in a multi-county area, particularly growth in the greater Fresno-Clovis metropolitan area, and in the city of Merced.

Cumulative impacts related to land use include the general intensification of land uses in the region and a transition from an agricultural landscape to an increasingly urban setting, particularly in northern Fresno County and southern Madera County. Major areas of growth in the region include the city of Madera and vicinity, southern Madera County, the city of Fresno and vicinity, the city of Clovis, the approved Millerton Specific Plan in Fresno County, and the foothills and mountain region of Madera County (e.g., Oakhurst, Coarsegold, Yosemite Lakes Park). To the north, the city of Merced projects relatively high rates of growth, along with more modest growth in the city of Chowchilla. Development of these areas would result in the conversion of agricultural land to urban uses and the loss of prime agricultural soils and grazing land. Also, the encroachment of urban development into agricultural areas increases potential conflicts between farmers and new residents.

Conversion of farmland in Madera County will contribute to the overall conversion of farmland occurring in neighboring counties and the Central Valley. Urban and suburban development in the Central Valley will continue to result in the conversion of the state's most valuable farmland and loss of production from these farmlands. Loss of production from these lands will have an adverse effect on the overall agricultural economy. This includes direct loss of income from the sale of agricultural products as well as secondary impacts associated with loss in revenue generated from transporting and processing agricultural products and providing agricultural-related services.

Population, Housing, and Employment

The cumulative analysis for employment and housing focuses on Madera County and the Fresno-Clovis metropolitan area. Development in Madera County is linked to projected growth in the greater Fresno area, as much of the housing being built in southern Madera County and the foothill and mountain communities of Madera County is being purchased by Fresno County workers due to its affordability and/or quality of life.

Implementation of the plan would continue to provide housing opportunities for economic growth in Fresno County, but also seeks to create more employment opportunities in Madera County and provide a better jobs-housing balance.

Traffic

The cumulative impact analysis for traffic is contained in Chapter 4, *Transportation*. The Madera County traffic model used for this analysis includes traffic from Fresno and Merced Counties. No new impacts would occur other than those identified in Chapter 4. Plan policies, programs, and mitigations listed in that chapter would help reduce the effect of this impact.

Water Supply

The cumulative analysis of water supply considers the valley groundwater basin. Accommodation of projected growth in jurisdictions relying on groundwater as a municipal water source along with continuing agricultural use of water in the basin will continue to deplete groundwater supplies. Reduced availability of surface water supplies for agricultural irrigation and/or the ability for farmers to sell surface water outside the region could further increase groundwater usage and deplete the available supply. This is a potentially significant cumulative impact of continued growth and water policies in the state. Water conservation measures for agriculture and municipal water use, along with recharge of the groundwater basin, could serve to reduce the depletion of the groundwater.

Biological Resources

Urban, suburban, and rural development in Madera County as well as timber harvesting, agriculture, mining, recreation uses, and other natural resource oriented land use activities in adjacent portions of Fresno, Mariposa, and Merced Counties would together result in significant impacts on native biological resources occurring regionally. The cumulative effects of habitat conversion and quality reduction will occur at an increasing rate as the human population grows, and housing, commercial centers, roads, and other infrastructure are built, both in the San Joaquin Valley and in the Sierra foothill region. The resulting widespread habitat fragmentation and loss would affect most biotic communities and the native fish, wildlife, and plant species occurring in them. Specifically, the following cumulative effects are expected to occur.

- Cumulative loss of critical habitat for special status species and the potential need to list additional species as threatened or endangered
- Cumulative loss of fish and wildlife habitat over large areas of the Sierra foothills
- Cumulative loss of wildlife movement corridors
- Cumulative loss of regional water quality in rivers, creeks, and reservoirs from accelerated rates of erosion, non-point source pollution, and diversions of water for landscaping, domestic consumption, and other uses
- Cumulative loss of valley foothill riparian forest
- Cumulative loss of northern hardpan vernal pools
- Cumulative loss of alkali desert scrub
-

Cumulative loss of oak woodlands in the Sierra foothills

- Cumulative loss of critical winter deer range for the Oakhurst and San Joaquin Deer herds.

Air Quality

The cumulative impact analysis for air quality is contained in the air quality section of Chapter 7, *Agricultural and Natural Resources*. The traffic volumes upon which the air quality analysis is based is described in the Chapter 4, *Transportation*, and are cumulative in nature, as described previously.

Development under the *Madera County General Plan* is part of a continuing pattern of urbanization in the eight-county San Joaquin Valley Air Basin. While the basin has shown gradual improvements in air quality, it is still in non-attainment of ambient national and state air quality standards. The overall cumulative effect of new development throughout the air basin will slow the rate of improvement and/or require enactment of more stringent control measures throughout the basin.

Geologic Hazards

Accommodating projected growth in Madera County combined with development in surrounding counties would expose a large number of people and structures to seismic shaking and associated seismic risks such as inundation from ruptured dams. In the event of a large earthquake affecting the region, emergency services within each jurisdiction and the region as a whole would be stressed. Plan policies, programs, and mitigations listed in Chapter 8, *Health and Safety*, would help reduce the effect of this impact.

Noise

The cumulative noise impact analysis is contained in the noise section of Chapter 8, *Health and Safety*. The analysis focuses on traffic noise sources along all of the major transportation corridors extending through Madera County, including State Route 99 and State Route 41. Continued development in Madera, Fresno, and Merced Counties are the primary contributors to traffic, and therefore to traffic noise, on these transportation corridors. No new impacts would occur other than listed in the noise section of Chapter 8. Plan policies, programs, and mitigations listed in that section would help reduce the effect of this impact.

9.7 MITIGATION MONITORING

CEQA prohibits a public agency from approving or carrying out a project for which an environmental impact report identifies significant environmental effects, unless one of specified findings relative to mitigation of those effects has been made. Section 21081.6 of the State of California's *Public Resources Code* states that when an agency approves a project subject to implementing mitigation measures (in an EIR or Negative Declaration), the public agency must adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment.

The policies and programs of the *Policy Document* operate to mitigate most of the impacts of new development under the *Plan*. Under Implementation Program 10.1, the County must annually review the *General Plan Policy Document*. As stated in the program, this review shall be used to satisfy the requirements for a mitigation monitoring program. To facilitate the County's review, prior to adoption of the *General Plan*, those policies and programs that will serve to mitigate identified environmental

impacts will be specifically listed and used to satisfy requirements for mitigation monitoring as part of the County' annual review.

APPENDIX A

AMENDMENTS TO EXISTING AREA PLANS

The following amendments to the *O'Neals Study Area Plan*, *North Fork Study Area Plan*, and *Oakhurst-Ahwahnee Area General Growth Management Plan*, and the *Coarsegold Community Plan* are proposed in connection with adoption of the updated Madera County General Plan. The purpose of these amendments is only to maintain consistency with the updated General Plan; no substantive changes are proposed. As described in Program 1.1 of the *General Plan Policy Document*, these area plans will be comprehensively revised and updated subsequent to adoption of the updated General Plan.

This section describes sections of the area plans that are proposed for amendments or deletions. Text that is not proposed for change is not included in this appendix. Complete copies of the four area plans are available at the Madera County Planning Department.

O'NEALS STUDY AREA PLAN

The area covered by the O'Neals Study Area Plan will be modified to exclude areas to be covered in the Rio Mesa Area and the Madera Ranchos-Bonadelle Ranchos Areas. The O'Neals Area shall cover the area shown in Figure 1-2 of the *Policy Document*.

The following text changes are recommended to ensure consistency with the *General Plan*. Additions are indicated by highlighting; deletions indicated by ~~strikeout~~.

1. Amendment: Change all references to "O'Neals Study Area Plan" to "O'Neals Area Plan"
Explanation: *To create consistency in nomenclature for all existing and future area plans in the county.*
2. Amendment: Page 2, first paragraph, last sentence.
The land use classifications and their applications are summarized below; ~~the specific areas to which they are applied area shown on the study area land use map.~~
Explanation: *Revisions were made to the land use designations changing the way the O'Neals Area Plan land use classifications are depicted on the Land Use Diagram.*
3. Amendment: Page 2, second paragraph entitled "Resource Conservation and Public Land"
Insert the following sentence in the paragraph:
~~Resource Conservation and Public Land is designated Agricultural Exclusive, Open Space, and Agriculture.~~
Explanation: *Revisions were made to the land use designations changing the way the O'Neals Area Plan land use classifications are depicted on the Land Use Diagram.*
4. Amendment: Page 2, third paragraph, entitled "Rural Development Areas"
Land within rural development areas is designated for rural residential, ~~rural~~ commercial, or public uses such as schools.
Explanation: *Removed formal reference to "rural" to use the more generic "commercial" term to ensure consistency with the General Plan land use designations.*

5. Amendment: Page 2, delete last three paragraphs on the page, as follows:
~~The land that is designated for rural residential development is generally located within existing approved subdivisions. The largest rural residential area is in the southwest portion of the study area and includes Bonadelle Ranchos No. 6, 7, 8, and 10. Other rural residential areas are Bonadelle Ranchos No. 9, Hidden Lake Estates, and the Davis Ranch Subdivision.~~

~~Land that is designated for rural commercial development includes all land that was zoned for commercial use prior to the adoption of this plan.~~

~~Several alternative locations for the future development of a ten-acre elementary school have been reviewed by the Spring Valley School District with the area bounded by Road 36 on the west, Avenue 16 on the south, Road 38 on the east, and Avenue 17 on the north. The exact location of a future school will be determined by the Spring Valley School Board at such time that a school facility is needed within this general area.~~

Explanation: These refer to an area removed from the O'Neals Area in the General Plan and included in a proposed Madera Ranchos-Bonadelle Ranchos Area and proposed Rio Mesa Area or are no longer relevant.

6. Amendment: Page 3, B. Policies for Resource Conservation and Public Land
1. Land within the study O'Neals area that is appropriate for resource conservation and public uses is designated on the study area land use map *Land Use Diagram* as Open Space, Agriculture Exclusive, or Agriculture.
 2. Activities or uses that are appropriate on resource conservation and public land generally include: maintenance of natural vegetation and wildlife habitat, mineral extraction, timber production, grazing, groundwater recharge, public and private parks, and other uses as described as allowable according to the applicable land use designation.

Explanation: Changes made to ensure consistency with the General Plan land use designations as depicted on the Land Use Diagram.

7. Amendment: Page 4, first paragraph
4. Residential development that is incidental to a resource conservation use is acceptable within designated resource conservation and public land areas consistent with the provisions of the applicable land use designation, provided that it is in conformance with natural and human resource capabilities (see Section III, A, 2, j).

Explanation: Changes made to ensure consistency with the General Plan land use designations as depicted on the Land Use Diagram.

8. Amendment: Page 5, 2. Policies for Rural Residential Land Use
 Land within designated rural development areas may be divided for and developed with rural residential land uses, provided that the land use division or development conforms to the policies of the *General Plan* and this section.

Explanation: Changes made to ensure consistency with the General Plan land use designations as depicted on the Land Use Diagram.

9. Amendment: Page 6, first paragraph
- c. Subdivisions of five or more lots ~~are~~ may be acceptable within designated rural development areas, consistent with the provisions of the applicable land use designation, provided that they area in conformance with natural and human resource capabilities (Section A, 2, j) and the following maximum density and minimum lot size criteria:
- Explanation: Changes made to ensure consistency with the General Plan land use designations as depicted on the Land Use Diagram.*
10. Amendment: Page 6, third paragraph, subsection e.
- e. Single family detached dwelling units are the most appropriate housing type for individual lots within designated rural development areas.
- Mobilehomes may be appropriate on individual lots within designated rural development areas, subject to the following conditions and criteria:
- Explanation: Changes made to eliminate any confusion concerning the area plan's classification as a rural development area and the designation of land with a General Plan land use designation.*
11. Amendment: Page 7, fourth paragraph (still under subsection e)
- ~~The County should consider zoning land within designated rural development areas to exclude mobilehomes when the owners of the land have requested that the land be so zoned.~~
- Explanation: Delete this provision consistent with the requirements of state law.*
12. Amendment: Page 8, subsection h.
- h. Mobilehome parks may be acceptable within designated rural development areas, provided that they area development pursuant to the provisions of Madera County Ordinance No. 298-A-55 and the following criteria:
- Explanation: Same as #10 above.*
13. Amendment: Page 9, fifth paragraph
- Property development standards for residential zoning districts that are applied within designated rural development areas shall be reviewed to ensure that they will allow development that is harmonious with the natural environment and rural atmosphere or the study O'Neals area and the goals and policies of this plan.
- Explanation: Same as #10 above.*
14. Amendment: Page 13, first heading and paragraph
- B. Goals & Policies for Rural Commercial Land Use
1. Goals for Rural Commercial Land Use
- a. To avoid strip commercial development within the study O'Neals area.
- Explanation: Removed formal reference to "rural" to use the more generic "commercial" term to ensure consistency with the General Plan land use designations.*

15. Amendment: Page 13, Section 2
2. Policies for ~~Rural~~ Commercial Land Use
- a. Commercial development that is oriented toward providing retail goods and services for the residents and visitors of the ~~study~~ O'Neals area may be acceptable with ~~designated~~ rural development areas, provided that the development conforms to the provisions of the Commercial, Rural, Median Zoning District or the Commercial, Rural, Restricted Zoning District and the policies of the ~~General Plan~~ and this section.

Explanation: Changes made to ensure consistency with the General Plan land use designations as depicted on the Land Use Diagram.

16. Amendment: Page 17, subsection f.
- f. Property development standards for commercial zoning districts that area applied within ~~designated~~ rural development areas shall be reviewed by the County to ensure that they will allow development that is harmonious with the natural environment and rural atmosphere of the ~~study~~ O'Neals area and the goals and policies of this plan.

Explanation: Same as #10 above.

NORTH FORK STUDY AREA PLAN

The following text changes are recommended to ensure consistency with the *General Plan*. Additions are indicated by **highlighting**; deletions indicated by ~~strikeout~~.

1. Amendment: Change all references to "North Fork Study Area Plan" to "North Fork Area Plan"
 Explanation: *To create consistency in nomenclature for all existing and future area plans in the county.*

2. Amendment: Page 2, first paragraph
 The plan establishes three major land use classifications for the ~~study~~ **North Fork** area and presents goals and policies for each of these classifications. The land use classifications ~~and their applications~~ are summarized below; ~~the specific areas to which they are applied are shown on the study area land use map.~~
 Explanation: *Revisions were made to the land use designations changing the way the North Fork Area Plan land use classifications are depicted on the Land Use Diagram.*

3. Amendment: Page 2, second paragraph entitled "The North Fork/South Fork Community Center Area"
 This area encompasses the land that is now developed or ~~designated~~ **and** zoned for urban residential, commercial, ~~and~~ industrial land uses within North Fork and South Fork.
 Explanation: *To clarify the relationship of the area plan with the revised land use designations of the General Plan.*

4. Amendment: Page 2, last sentence of third paragraph entitled "Rural Development Areas"
 This land is now primarily ~~designated~~ **and** zoned for rural residential uses and significant portions of it have divided into smaller lots (less than 40 acres).
 Explanation: *Same as #3 above.*

5. Amendment: Page 2, last sentence of last paragraph entitled "Resource Conservation and Public Open Space Areas"
 The resource conservation and public open space land is now primarily ~~designated~~ **and** zoned for public open space and agricultural uses and is generally in lots of forty acres or larger.
 Explanation: *Same as #3 above.*

6. Amendment: Page 3, A. Goals & Policies for Rural Residential Land Use
 1. Goals for Rural Residential Land Use
 - a. To provide appropriate locations for rural residential development within the ~~study~~ **North Fork** area.
 - b. To encourage rural residential development to occur on existing lots within ~~designated~~ rural development areas.
 - c. To encourage the use of the subdivision process as the preferable method of dividing land for residential purposes within ~~designated~~ rural development areas.
 - d. To encourage innovative, quality design for residential development within ~~designated~~ rural development areas.

- e. To provide flexibility in the type of housing that many be permitted within ~~designated~~ rural development areas.

2. Policies for Rural Residential Land Use

- a. Land within ~~designated~~ rural development areas may be divided for and developed with rural residential land uses, provide the at the land division or development conforms to the policies of the ~~General Plan and this section~~.
- b. Land divisions creating lots that are dependent upon individual water and sewage systems, that have a minimum gross area of three acres, ~~are consistent with the provisions of the applicable land use designation, and that are in conformance with natural and human resource capabilities (see Section A, 2, j) are acceptable within designated rural development areas.~~

Explanation: Changes made to eliminate any confusion concerning the area plan's classification as a rural development area and the designation of land with a General Plan land use designation.

7. Amendment: Page 4, first paragraph

- c. Subdivisions of five or more lots ~~are~~ may be acceptable within ~~designated~~ rural development areas, ~~consistent with the provisions of the applicable land use designation~~, provided that they are in conformance with natural and human resource capabilities (Section A, 2, j) and the following maximum density and minimum lot size criteria:

Explanation: Changes made to ensure consistency with the General Plan land use designations as depicted on the Land Use Diagram.

8. Amendment: Page 4, third paragraph

- e. Single family detached dwelling units are the most appropriate housing type for individual lots within ~~designated~~ rural development areas.

Mobilehomes may be appropriate on individual lots within ~~designated~~ rural development areas, subject to the following conditions and criteria:

Explanation: Changes made to eliminate any confusion concerning the area plan's classification as a rural development area and the designation of land with a General Plan land use designation.

9. Amendment: Page 5, fourth paragraph (still under subsection e)

~~The County should consider zoning land within designated rural development areas to exclude mobilehomes when the owners of the land have requested that the land be so zoned.~~

Explanation: Delete consistent with the provisions of state law.

10. Amendment: Page 6, subsection h.

- h. Mobilehome parks may be acceptable within ~~designated~~ rural development areas, provided that they area development pursuant to the provisions of Madera County Ordinance No. 298-A-55 and the following criteria:

Explanation: Same as #8 above.

11. Amendment: Page 9, fifth paragraph, subsection i.
i. Property development standards for residential zoning districts that are applied within ~~designated~~ rural development areas shall be reviewed to ensure that they will allow development that is harmonious with the natural environment and rural atmosphere or the ~~study~~ North Fork area and the goals and policies of this plan.
Explanation: Same as #8 above.
12. Amendment: Page 11, first heading and paragraph
B. Goals & Policies for ~~Rural~~ Commercial Land Use
1. Goals for ~~Rural~~ Commercial Land Use
a. To avoid strip commercial development within the ~~study~~ North Fork area.
Explanation: Removed formal reference to "rural" to use the more generic "commercial" term to ensure consistency with the General Plan land use designations.
13. Amendment: Page 11, Section 2
2. Policies for ~~Rural~~ Commercial Land Use
a. Commercial development that is oriented toward providing retail goods and services for the residents and visitors of the ~~study~~ North Fork area may be acceptable with ~~designated~~ rural development areas, provided that the development conforms to the provisions of the Commercial, Rural, Median Zoning District or the Commercial, Rural, Restricted Zoning District and the policies of the ~~General Plan~~ and this section.
Explanation: Changes made to ensure consistency with the General Plan land use designations as depicted on the Land Use Diagram.
14. Amendment: Page 15, subsection f.
f. Property development standards for commercial zoning districts that area applied within ~~designated~~ rural development areas shall be reviewed by the County to ensure that they will allow development that is harmonious with the natural environment and rural atmosphere of the ~~study~~ North Fork area and the goals and policies of this plan.
Explanation: Same as #8 above.
15. Amendment: Page 15, Section C. entitled "Rural Industrial Land Use," first sentence
Because of the limited time available for the development of this plan, the North Fork Citizens Advisory Committee was unable to evaluate in detail the appropriateness of or develop goals and policies for industrial development within ~~designated~~ rural development areas.
Explanation: Same as #8 above.
16. Amendment: Page 16, A. Goals for Resource Conservation and Public Open Space Land
1. To identify existing resource conservation and open space land within the ~~study~~ North Fork area.
Explanation: To ensure consistency in nomenclature of existing and future area plans.
17. Amendment: Page 16, B. Policies for Resource Conservation and Public Land

1. Land within the ~~study North Fork~~ area that is appropriate for resource conservation and public uses is designated on the ~~study area land use map~~ *Land Use Diagram* as Open Space, Agriculture Exclusive, or Agriculture.
2. Activities or uses that are appropriate on resource conservation and public land ~~generally~~ include: maintenance of natural vegetation and wildlife habitat, mineral extraction, timber production, grazing, groundwater recharge, public and private parks, and other uses as described as allowable according to the applicable land use designation.
3. The minimum permitted lot size within ~~designated~~ resource conservation and public open space land areas shall be forty acres, except as provided below:

Explanation: Changes made to ensure consistency with the General Plan land use designations as depicted on the Land Use Diagram.

18. Amendment: Page 17, first and second full paragraphs
 4. Residential development that is incidental to a resource conservation use is acceptable within ~~designated~~ resource conservation and public land areas ~~consistent with the provisions of the applicable land use designation~~, provided that it is in conformance with natural and human resource capabilities (see Section II, A, 2, j).
 5. Property development standards for resource conservation and public open space zoning districts that are applied within ~~designated~~ resource conservation and public open space land use areas shall be reviewed by the county to ensure that they will allow development that is harmonious with the natural environment and rural atmosphere of the ~~study North Fork~~ area and the goals and policies of this plan.

Explanation: Changes made to ensure consistency with the General Plan land use designations as depicted on the Land Use Diagram.

19. Amendment: Page 18, A. Introduction, first sentence
The North Fork/South Fork Community Center Area is comprised of land that is developed or ~~designated and~~ zoned for residential, commercial, and industrial land uses within North Fork and South Fork.

Explanation: Same as #3 above.

20. Amendment: Page 19, B. Goals for North Fork/South Fork Community Center Area
 1. To maintain the North Fork/South Fork area as the community service center for the ~~study North Fork~~ area.
 2. To encourage a concentrated, balanced land use pattern within the North Fork/South Fork area which meets the needs of the residents and economy of the ~~study~~ area.

Explanation: Same as #1 above.

21. Amendment: Page 19, C. Policy & Plan Development Guidelines for the North Fork/South Fork Community Center Area
 1. The North Fork/South Fork Community Center Area shall be the center for urban residential, commercial, and industrial development and public services within the ~~study~~ area.

Explanation: Same as #1 above.

OAKHURST-AHWAHNEE AREA GENERAL GROWTH MANAGEMENT PLAN

The following text changes are recommended to ensure consistency with the *General Plan*. Additions are indicated by **highlighting**; deletions indicated by ~~strikeout~~.

1. Amendment: Change all references to "Oakhurst-Ahwahnee Area General Growth Management Plan" to "Oakhurst-Ahwahnee Area Plan"
Explanation: To create consistency in nomenclature for all existing and future area plans in the county.

2. Amendment: Page 10, first paragraph
 Add the following sentence to the end of the first paragraph:
~~The countywide General Plan was comprehensively revised and an updated plan was adopted in 1994.~~
Explanation: To eliminate confusion from references to 1969 General Plan and individual elements.

3. Amendment: Page 19, last paragraph continuing to top of page 20.
~~The recommendation to preserve the area's rural nature and low residential density, except in areas specified for urban development, can be implemented by the County planning process through implementation of the Land Use Diagram in two ways. First of all, the Land Use Map proposed in this plan should be adopted by the County as a part of the County General Plan. This would also require that zoning districts within the planning area would become compatible with the Land Use Map. This map was designed~~ The Land Use Diagram reflects the plan's design to encourage a concentric growth pattern which directs future urban development only toward certain areas surrounding existing urban community areas.
Explanation: To reflect the inclusion of the land use map for the Oakhurst-Ahwahnee Area into the Land Use Diagram.

4. Amendment: Page 27, first paragraph, first sentence.
~~The Land Use Map proposed with part of the Land Use Diagram covering the area of this plan takes into account the need to preserve some lands within the area for rural residential areas.~~
Explanation: Same as #3 above.

5. Amendment: Page 27, first paragraph, last sentence
~~A survey of current land development was also considered in development of the land use diagram for the area proposed Land Use Map (See Pages 117, 118, and 119).~~
Explanation: Same as #3 above.

6. Amendment: Page 27, second paragraph, last two sentences
~~The Land Use Map proposed with part of the Land Use Diagram covering the area of this plan suggests boundaries and allowable densities for urban and middle density development as called for by these recommendations. Implementation would be accomplished through adoption of this map as a "Small Area General Plan Land Use Maps."~~
Explanation: Same as #3 above.

7. Amendment: Page 28, second paragraph, third sentence
Because of this balance, the ~~proposed Land Use Plan Land Use Diagram covering this area~~ should be amended only with these considerations in mind.
Explanation: Same as #3 above.
8. Amendment: Page 29, first and only paragraph
This plan recommends the same consideration for all properties designated as "Rural Mountain" Rural Residential areas. ~~Adoption of the proposed Land Use Map The Land Use Diagram and consideration of the policies described in this portion of the Plan should effectively preserve rural residential and open space land uses within this planning area.~~
Explanation: To reflect inclusion of the land use plan for the area in the Land Use Diagram and reflect change in designation name.
9. Amendment: Page 30, Summary, Implementation Plans and Policies, Section B.
B. In order to guide development away from those areas planned for rural residential and agricultural use, ~~designated~~ community center residential zones could be increased in area and greater building density could be allowed.
Explanation: To eliminate confusion regarding general plan designations.
10. Amendment: Page 91, first full paragraph
The County of Madera adopted the Scenic Highways Element of its General Plan on June 27, 1978, ~~which was the ninth of nine required general plan elements to be adopted. Scenic highways issues were subsequently assimilated in the update of the countywide General Plan, adopted in 1994. Within this plan, if~~ Four scenic drives are recommended for protection and possible future enhancements.
Explanation: To eliminate any confusion regarding references to a general plan element that will be superseded.
11. Amendment: Page 97, last paragraph
~~If this plan is incorporated into the County General Plan, it would also be required that any amendment action should be consistent with other parts of the plan which are related to it. This is c~~Consistent with current State planning law and regulations.
~~If~~ If a proposed amendment action would undermine or actually refute the validity of other sections of the plan, it is suggested that all related portions of the plan's text and land use map be revised at the time the amendment is granted.
Explanation: To reflect inclusion of the land use plan for the area in the Land Use Diagram.
12. Amendment: Page 104, first paragraph
This section of the ~~Growth Management~~ Plan for the Oakhurst, Ahwahnee, and Yosemite Forks areas presents a recommended land use plan developed specifically to meet the environmental limitations existing within that planning of Madera County. The plan also emphasizes the social and economic factors which have been explored during the course of this study. ~~Incorporation of this land use plan into the General Plan has been recommended as a major implementation measure to insure that the planning needs described within this document are met.~~
Explanation: To reflect inclusion of the land use plan for the area in the Land Use Diagram.

13. Amendment: Page 104, second paragraph, first sentence
~~Map 7 illustrates the County's current division of the County into planning and zoning areas.~~
Explanation: *This map and reference to it should be removed from this plan to avoid any existing or future inconsistencies with the Land Use Diagram. References to maps available at the County Planning Department is included later in the paragraph.*
14. Amendment: Page 104, third paragraph, first sentence
~~Maps 8, 9, and 10 illustrate the current zoning of most privately owned lands within the area covered by this report.~~
Explanation: *These maps and reference to them should be removed from this plan to avoid any existing or future inconsistencies with the official County zoning maps.*
15. Amendment: Page 104, fourth paragraph, moving onto the top of page 105
~~Maps 12, 13, and 14 represent the proposed land use plan for planning areas 1, 2, and 3 of Madera County. This land use plan would allow a maximum population of 13,000 persons within the Oakhurst Ahwahnee planning area. While this would allow a 10% annual growth rate with the area under optimal conditions, it is recognized that certain development constraints would restrain this excessive rate if other plans and policies described within this report are enforced. The Land Use Diagram for this area is available separately at the County Planning Department, along with descriptions of the area's holding capacity and development estimates. Major recommendations that would restrict growth under the proposed land use plan might be:~~
Explanation: *These maps and reference to them should be removed from this plan to avoid any existing or future inconsistencies with the Land Use Diagram.*
16. Amendment: Delete maps 7 through 12
Explanation: *These maps should be removed from this plan to avoid any existing or future inconsistencies with the Land Use Diagram and official County zoning maps.*
17. Amendment: Page 113, Proposed Land Use Map Key, Delete entire page
Explanation: *These land use designations will be superseded by adoption of the updated General Plan*

COARSEGOLD COMMUNITY PLAN

The following text changes are recommended to ensure consistency with the *General Plan*. Additions are indicated by highlighting; deletions indicated by ~~strikeout~~.

1. Amendment: Change all references to "Coarsegold Community Plan" to "Coarsegold Area Plan"
Explanation: To create consistency in nomenclature for all existing and future area plans in the county.

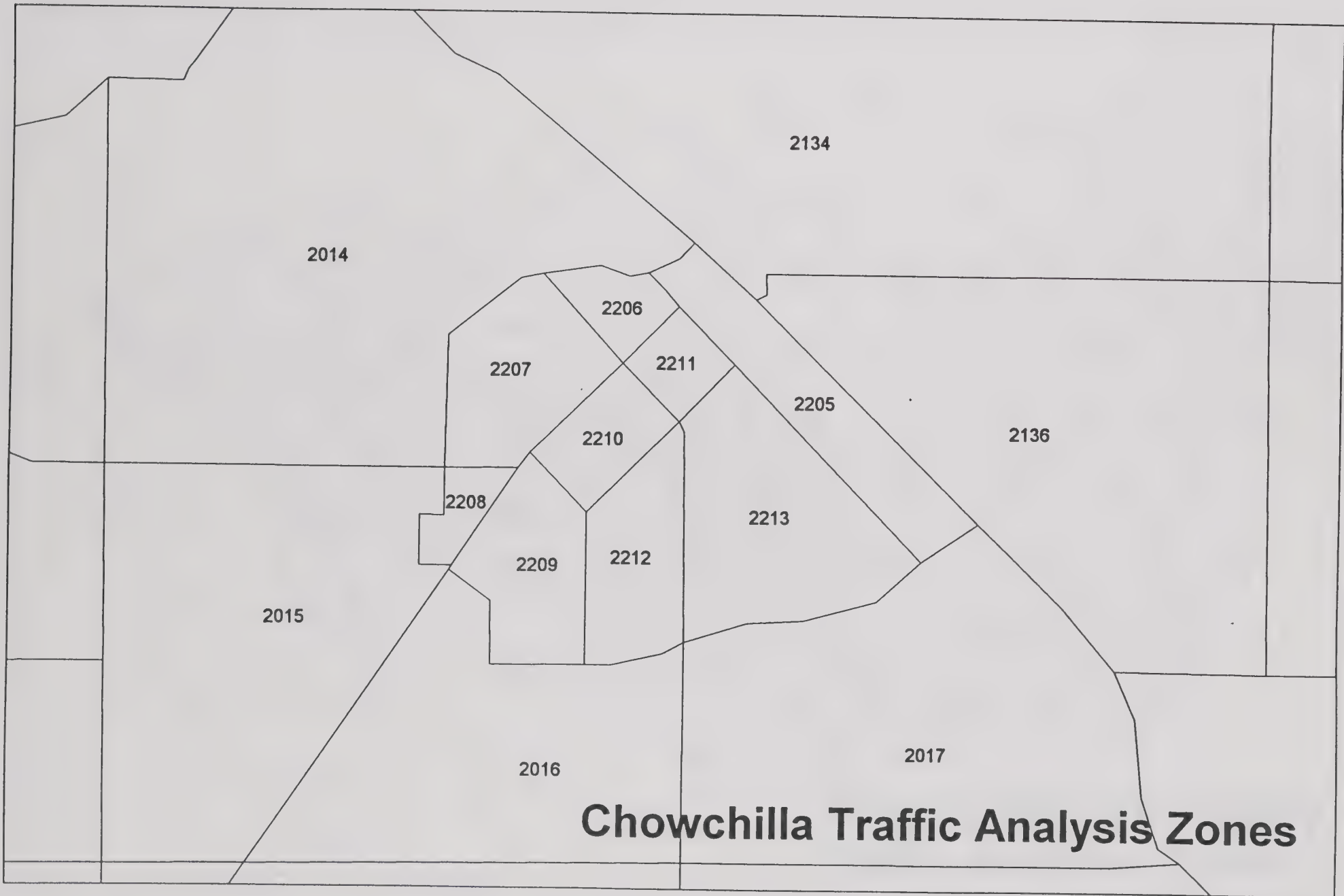
APPENDIX B

TRAFFIC ANALYSIS ZONES

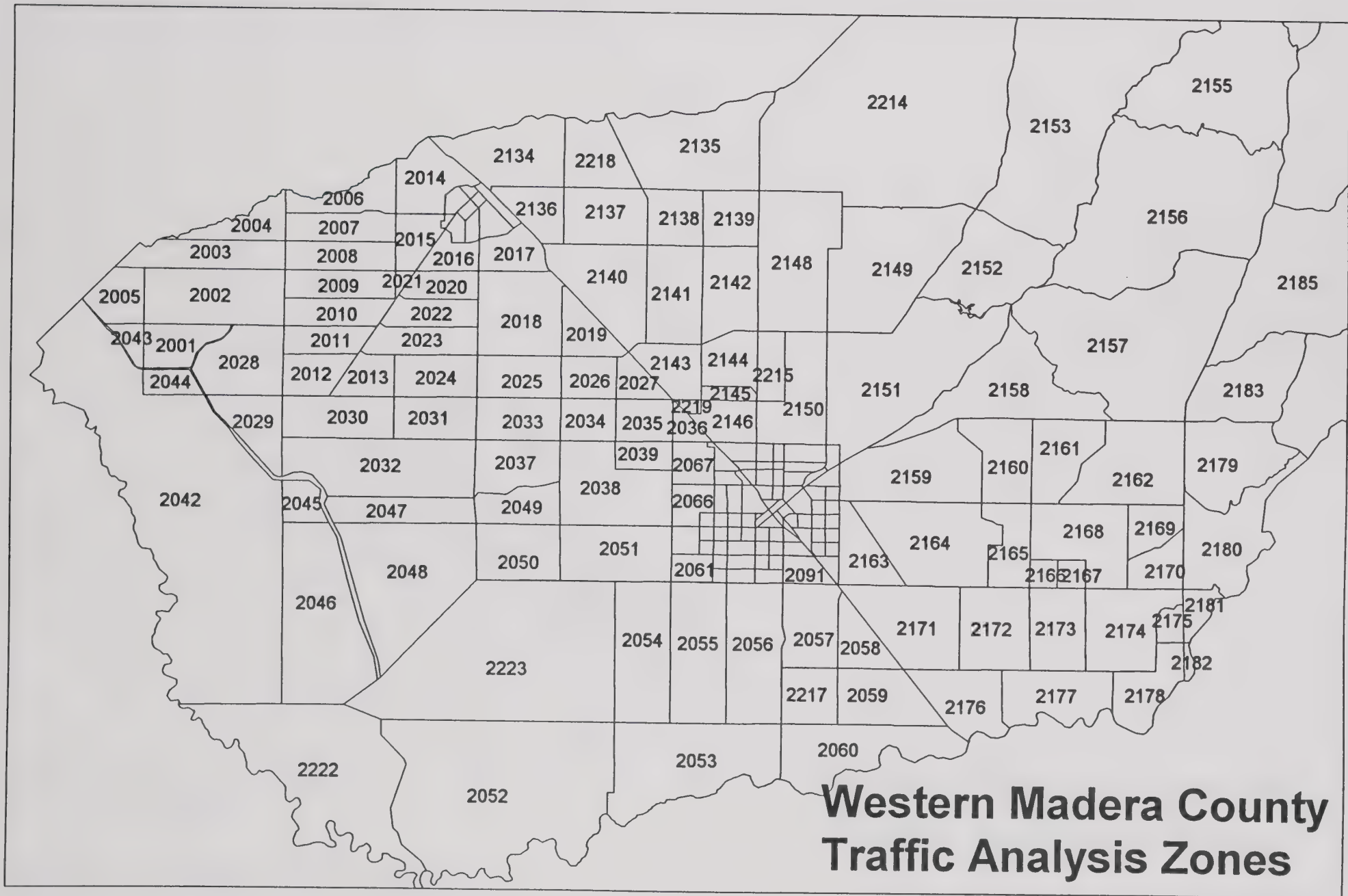
Madera Traffic Analysis Zones

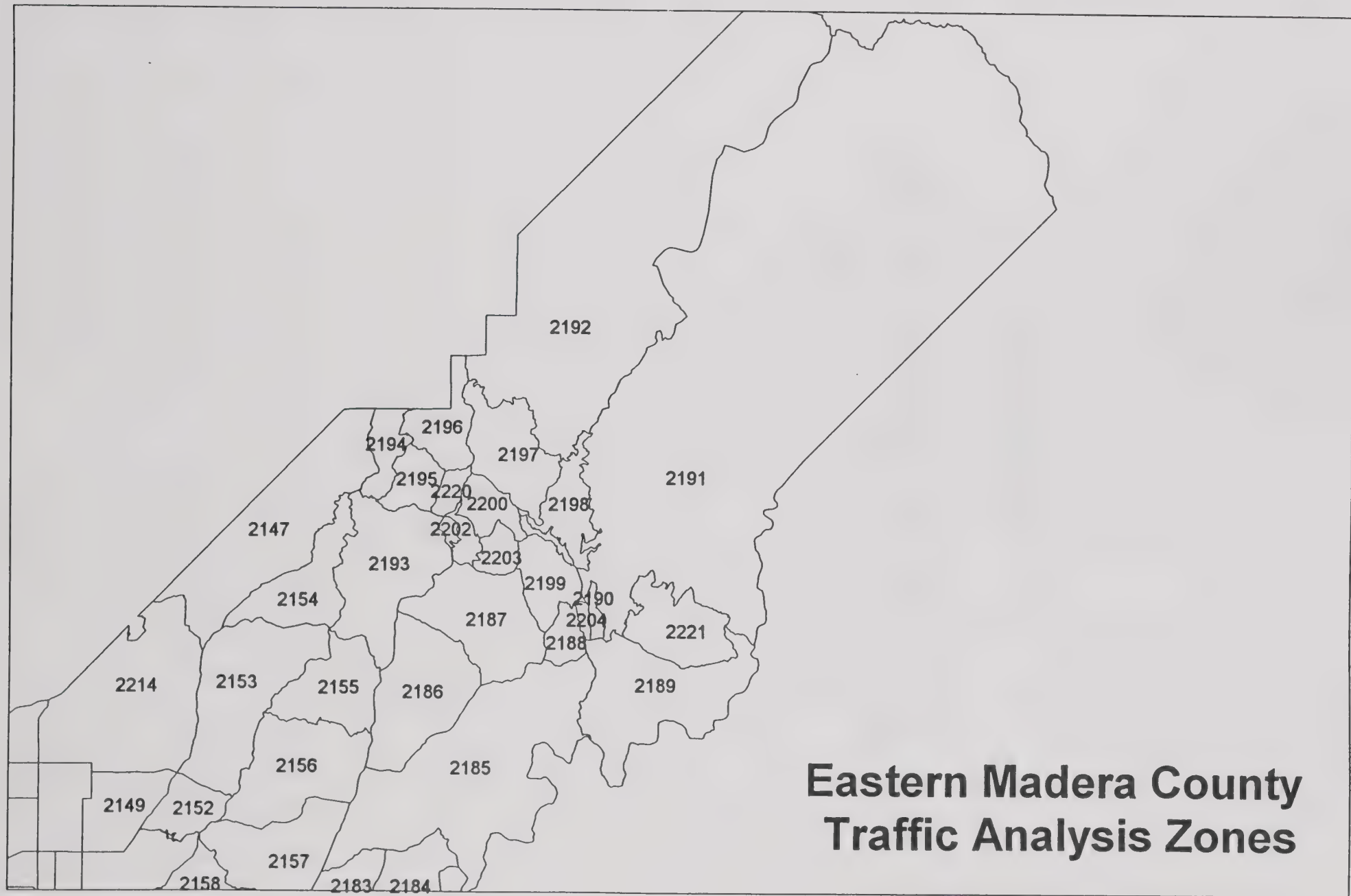
The map displays the following traffic analysis zones:

- 2035
- 2036
- 2146
- 2150
- 2151
- 2039
- 2067
- 2097
- 2098
- 2099
- 2100
- 2216
- 2040
- 2101
- 2102
- 2103
- 2104
- 2068
- 2109
- 2110
- 2111
- 2112
- 2105
- 2106
- 2159
- 2038
- 2066
- 2069
- 2070
- 2113
- 2114
- 2115
- 2107
- 2108
- 2092
- 2116
- 2117
- 2118
- 2119
- 2120
- 2121
- 2122
- 2063
- 2071
- 2072
- 2093
- 2094
- 2095
- 2096
- 2123
- 2124
- 2125
- 2126
- 2127
- 2064
- 2073
- 2074
- 2076
- 2082
- 2083
- 2084
- 2129
- 2130
- 2062
- 2065
- 2075
- 2077
- 2085
- 2086
- 2090
- 2131
- 2132
- 2051
- 2061
- 2078
- 2080
- 2087
- 2088
- 2089
- 2091
- 2133
- 2164
- 2163



Chowchilla Traffic Analysis Zones





Eastern Madera County Traffic Analysis Zones

APPENDIX C

DEVELOPMENT ESTIMATES BY TRAFFIC ANALYSIS ZONE 1990, 2010, and Buildout

**MADERA COUNTY DRAFT GENERAL PLAN
1990 DATA BY TAZ**

NO.	SUBAREA	SUBAREA2	TAZ	SIZEACRE	MADACRES	CHOWACRES	NGAACRES	POP90	TOTDUS90	SFDUS90	MFDUS90	RETEMP90	OFCEMP90	INDEMP90	OTHEMP90	GOVEMP90	EDEMP90	TOTEMP90
1	West	West	2001	2303	0	0	0	33	8	8	0							
1	West	West	2002	6385	0	0	0	169	50	50	0						63	63
1	West	West	2003	3565	0	0	0	190	64	64	0				56			56
1	West	West	2004	2187	0	0	0	65	19	19	0							0
1	West	West	2005	2188	0	0	0	10	2	2					17			17
1	West	West	2006	2479	0	0	0	183	45	45	0							0
1	West	West	2007	2582	0	0	0	91	29	29	0							0
1	West	West	2008	2600	0	0	0	80	20	20	0							0
1	West	West	2009	2548	0	0	0	113	42	42	0				23			23
1	West	West	2010	2359	0	0	0	116	40	40	0				13			13
1	West	West	2011	1932	0	0	0	86	32	32	0				14			14
1	West	West	2012	2104	0	0	0	108	41	41	0							0
1	West	West	2013	1772	0	0	0	114	37	37	0				16			16
2.2	ChowFair	Chowun	2014A	2974	0		0	63	19	19	0							0
2.1	ChowFair	Chowinc	2014B	210		210									21			21
2.2	ChowFair	Chowun	2015	1769	0	0	0	250	86	86	0							
2.2	ChowFair	Chowun	2016	1333	0	0	0	186	60	60	0				14			14
2.2	ChowFair	Chowun	2017	2033	0	0	0	91	23	23	0				23			23
2.2	ChowFair	Chowun	2018	5741	0	0	0	162	49	49	0			390				390
2.2	ChowFair	Chowun	2019	2160	0	0	0	149	44	44	0							0
2.2	ChowFair	Chowun	2020	1653	0	0	0	218	75	75	0			55	74			129
2.2	ChowFair	Chowun	2021	244	0	0	0	23	10	10								0
2.2	ChowFair	Chowun	2022	2080	0	0	0	15	8	8	0							0
2.2	ChowFair	Chowun	2023	2535	0	0	0	105	34	34	0	0	0	0	26			26
1	West	West	2024	2861	0	0	0	95	32	32	0				14			0
1	West	West	2025	2897	0	0	0	76	29	29	0							14
1	West	West	2026	1923	0	0	0	149	42	42	0					13		13
3.3	Madun	Madnorth	2027	1295	0	0	0	175	60	60	0							0
1	West	West	2028	4482	0	0	0	73	23	23	0				37			37
1	West	West	2029	2881	0	0	0	32	10	10	0							0
1	West	West	2030	3866	0	0	0	180	64	64	0	0						0
1	West	West	2031	2857	0	0	0	28	16	16	0							0
1	West	West	2032	8546	0	0	0	23	7	7	0							0
1	West	West	2033	2934	0	0	0	130	51	51	0							0
1	West	West	2034	1948	0	0	0	229	78	78	0				14		46	60
3.3	Madun	Madnorth	2035	1999	0	0	0	83	28	28	0				160			160
3.3	Madun	Madnorth	2036	729	0	0	0	88	27	27	0			14				14
1	West	West	2037	3403	0	0	0	125	37	37	0							0
1	West	West	2038	6516	0	0	0	186	62	62	0							0
3.3	Madun	Madnorth	2039	1337	0	0	0	21	7	7	0				38			38
3.1	Madcity	Traffic	2040	328	328	0	0	233	93	70	23	174	6	581	180			180
3.1	Madcity	Traffic	2041	90	90	0	0	123	36	36	0	475	17		466			1227
1	West	West	2042	39018	0	0	0	214	69	69	0				140			492
1	West	West	2043	743	0	0	0	5	1	1	0	0						140
																		0

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NO.	SUBAREA	SUBAREA2	TAZ	SIZEACRE	MADACRES	CHOWACRES	NGAACRES	POP90	TOTDUS90	SFDUS90	MFDUS90	RETEMP90	OFCEMP90	INDEMP90	OTHEMP90	GOVEMP90	EDEMP90	TOTEMP90
1	West	West	2044	1090	0	0	0	11	3	3	0							0
1	West	West	2045	1339	0	0	0	59	13	13	0							0
1	West	West	2046	11005	0	0	0	12	3	3	0				20			20
1	West	West	2047	3159	0	0	0	154	37	37	0							0
1	West	West	2048	11055	0	0	0	28	7	7	0				102			102
1	West	West	2049	2444	0	0	0	39	13	13	0				16			16
1	West	West	2050	3847	0	0	0	59	23	23	0				13			13
1	West	West	2051	5160	366	0	0	223	56	56	0					10	41	51
1	West	West	2052	24446	0	0	0	180	34	34	0				193			193
1	West	West	2053	10177	0	0	0	620	145	145	0				353			353
1	West	West	2054	6480	0	0	0	377	88	88	0				29		46	75
1	West	West	2055	6463	0	0	0	826	230	190	40			36	282			318
1	West	West	2056	6460	0	0	0	544	143	143	0				342	0	41	383
1	West	West	2057	3857	0	0	0	233	73	73	0			17	109			126
1	West	West	2058	2198	0	0	0	159	47	47	0							0
1	West	West	2059	4110	0	0	0	423	102	102	0				45		75	120
1	West	West	2060	6628	0	0	0	266	68	68	0			60	81			141
3.1	Madcity	OtherGP	2061	955	0	0	0	73	16	16								0
3.1	Madcity	OtherGP	2062	642	0	0	0	128	48	48	0							0
3.1	Madcity	OtherGP	2063	161	40	0	0	1	1	1								0
3.1	Madcity	OtherGP	2064	160	0	0	0	51	20	20	0							0
3.1	Madcity	OtherGP	2065	159	0	0	0	40	15	15	0							0
3.1	Madcity	OtherGP	2066	1297	40	0	0	101	43	43	0							0
3.1	Madcity	OtherGP	2067	1432	1107	0	0	2	1	1	0							0
3.1	Madcity	Traffic	2068	282	282	0	0	2	1	1	0							0
3.1	Madcity	Traffic	2069	301	301	0	0	669	216	216	0							0
3.1	Madcity	Traffic	2070	341	341	0	0	38	15	15								0
3.1	Madcity	Traffic	2071	163	122	0	0	838	281	281	0							0
3.1	Madcity	Traffic	2072	159	159	0	0	1321	450	433	17							0
3.1	Madcity	Traffic	2073	158	125	0	0	18	9	9								0
3.1	Madcity	Traffic	2074	151	151	0	0	110	61	8	53				1358			1358
3.1	Madcity	Traffic	2075	165	20	0	0	1	1	1					54			54
3.1	Madcity	Traffic	2076	160	100	0	0	110	34	2	32	223	100	250	177			750
3.1	Madcity	Traffic	2077	328	165	0	0	13	7	7		74	33	336	59			502
3.1	Madcity	Traffic	2078	163	163	0	0	1	1	1				54				54
3.1	Madcity	OtherGP	2079	163	0	0	0	1	1	1								0
3.1	Madcity	Traffic	2080	319	319	0	0	15	9	9				119				119
3.1	Madcity	OtherGP	2081	322	0	0	0	62	17	17	0							0
3.1	Madcity	Traffic	2082	158	80	0	0	546	169	119	50	28	14	8	57		300	107
3.1	Madcity	Traffic	2083	162	162	0	0	963	326	246	80	56	28		49		50	133
3.1	Madcity	Traffic	2084	125	125	0	0	911	362	94	268	21	33					54
3.1	Madcity	Traffic	2085	160	0	0	0	23	9	9	0							0
3.1	Madcity	Traffic	2086	161	0	0	0	9	2	2								0
3.1	Madcity	OtherGP	2087	158	0	0	0	19	8	8								0

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NO.	SUBAREA	SUBAREA2	TAZ	SIZEACRE	MADACRES	CHOWACRES	NGAACRES	POP90	TOTDUS90	SFDUS90	MFDUS90	RETEMP90	OFCEMP90	INDEMP90	OTHEMP90	GOVEMP90	EDEMP90	TOTEMP90
3.1	Madcit	OtherGP	2088	165	0	0	0	19	7	7	0							0
3.1	Madcit	OtherGP	2089	319	0	0	0	5	1	1								0
3.1	Madcit	Traffic	2090	284	284	0	0	417	151	66	85	108	177					285
3.1	Madcit	OtherGP	2091	973	973	0	0	1688	518	448	70	43	70	116				229
3.1	Madcit	Traffic	2092	457	457	0	0	2043	861	693	168		52				150	52
3.1	Madcit	Traffic	2093	162	162	0	0	1205	471	459	12	100						0
3.1	Madcit	Traffic	2094	22	22	0	0	76	36	36		6	5					11
3.1	Madcit	Traffic	2095	105	105	0	0	796	358	249	109	28	26					54
3.1	Madcit	Traffic	2096	141	141	0	0	988	445	248	197	245	219					466
3.1	Madcit	OtherGP	2097	511	0	0	0	774	221	221	0	37	6		380			423
3.1	Madcit	Traffic	2098	256	0	0	0	487	126	126	0							0
3.1	Madcit	Traffic	2099	161	0	0	0	54	18	18	0							0
3.1	Madcit	OtherGP	2100	631	0	0	0	153	49	49	0	33						33
3.1	Madcit	Traffic	2101	135	0	0	0	182	56	48	8							0
3.1	Madcit	Traffic	2102	110	35	0	0	22	6	6	0	212						213
3.1	Madcit	Traffic	2103	67	0	0	0	378	145	84	61							0
3.1	Madcit	Traffic	2104	308	150	0	0	678	159	159	0						50	0
3.1	Madcit	Traffic	2105	143	0	0	0	42	13	13	0							0
3.1	Madcit	Traffic	2106	331	30	0	0	205	82	82	0							0
3.1	Madcit	Traffic	2107	210	70	0	0	33	11	11	0						40	0
3.1	Madcit	OtherGP	2108	163	0	0	0	60	22	22	0							0
3.1	Madcit	Traffic	2109	130	130	0	0	123	37	37	0	72	13	17	0			103
3.1	Madcit	Traffic	2110	225	225	0	0	1219	346	271	75	413						417
3.1	Madcit	Traffic	2111	142	142	0	0	1549	446	312	134	39						40
3.1	Madcit	Traffic	2112	255	225	0	0	2251	697	523	174	4						4
3.1	Madcit	Traffic	2113	170	170	0	0	1623	431	333	98	56	14		114			185
3.1	Madcit	Traffic	2114	123	123	0	0	1187	340	312	28	13			67		40	80
3.1	Madcit	Traffic	2115	174	174	0	0	1305	546	510	36	27	20		55			103
3.1	Madcit	Traffic	2116	365	265	0	0	2439	655	527	128	51	49		224			325
3.1	Madcit	Traffic	2117	158	0	0	0	94	31	31	0							0
3.1	Madcit	OtherGP	2118	161	0	0	0	40	17	17	0							0
3.1	Madcit	Traffic	2119	73	73	0	0	1087	409	229	180	330	312	91	610			1467
3.1	Madcit	Traffic	2120	93	93	0	0	664	266	108	158	480	497	45	152			1354
3.1	Madcit	Traffic	2121	63	63	0	0	577	171	84	87	398	143					690
3.1	Madcit	Traffic	2122	107	107	0	0	1099	244	140	104	718	259	52	572			1871
3.1	Madcit	Traffic	2123	65	65	0	0	338	86	59	27	53	3		118			175
3.1	Madcit	Traffic	2124	123	123	0	0	1277	304	304	0	60	4		171			236
3.1	Madcit	Traffic	2125	159	159	0	0	1166	277	222	55							0
3.1	Madcit	Traffic	2126	158	0	0	0	373	27	27	0							0
3.1	Madcit	OtherGP	2127	163	0	0	0	8	4	4	0							0
3.1	Madcit	Traffic	2128	219	0	0	0	22	10	10	0							0
3.1	Madcit	Traffic	2129	157	0	0	0	116	37	37	0							0
3.1	Madcit	OtherGP	2130	159	0	0	0	58	13	13	0							0
3.1	Madcit	Traffic	2131	150	0	0	0	241	69	69	0						40	0

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NO.	SUBAREA	SUBAREA2	TAZ	SIZEACRE	MADACRES	CHOWACRES	NGAACRES	POP90	TOTDUS90	SFDUS90	MFDUS90	RETEMP90	OFCEMP90	INDEMP90	OTHEMP90	GOVEMP90	EDEMP90	TOTEMP90
3.1	Madcity	OtherGP	2132	159	0	0	0	926	239	239	0							0
3.5	Madcity	STCC	2133	305	0	0	305	67	22	22	0							0
2.2	ChowFair	Chowun	2134A	4829	0	0	0	30	11	11	0							0
2.1	ChowFair	Chowinc	2134B	653		653		0	0	0		0						0
4	Raymond	Raymond	2135	9062	0	0	0	162	43	43	0				86			86
2.2	ChowFair	Chowun	2136A	1361	0	0	0	0	0	0	0	0						0
2.1	ChowFair	Chowinc	2136B	903	0	903		79	36	36		36						36
2.2	ChowFair	Chowun	2137	3881	0	0	0	7	2	2	0							0
4	Raymond	Raymond	2138	2579	0	0	0	11	4	4	0							0
4	Raymond	Raymond	2139	2536	0	0	0	17	5	5	0							0
2.2	ChowFair	Chowun	2140	5915	0	0	0	930	277	237	40			289		754	78	1121
4	Raymond	Raymond	2141	4483	0	0	0	23	7	7	0				46			46
4	Raymond	Raymond	2142	4033	0	0	0	44	15	15	0							0
3.3	Madun	Madnorth	2143	2478	0	0	0	38	13	13	0							0
3.3	Madun	Madnorth	2144	2407	0	0	0	129	45	45	0				13			13
3.3	Madun	Madnorth	2145	616	0	0	0	411	124	124	0							0
3.3	Madun	Madnorth	2146	1939	0	0	0	2109	625	625	0		14	59	15			88
4	Raymond	Raymond	2147	36906	0	0	0	528	211	183	28	13						13
4	Raymond	Raymond	2148	8646	0	0	0	15	5	5	0							0
4	Raymond	Raymond	2149	10871	0	0	0	60	23	23	0							0
3.3	Madun	Madnorth	2150	4854	0	0	0	1286	362	362	0							0
4	Raymond	Raymond	2151	13833	0	0	0	546	168	168	0							0
4	Raymond	Raymond	2152	6827	0	0	0	13	3	3								0
4	Raymond	Raymond	2153	28032	0	0	0	329	128	103	25		36	147				183
4	Raymond	Raymond	2154	13868	0	0	0	156	65	65	0							0
6	North41	North41	2155	14102	0	0	0	2396	905	905	0		56					56
6	North41	North41	2156	22251	0	0	0	208	77	77	0					129		129
6	North41	North41	2157	19363	0	0	0	87	30	30	0							0
4	Raymond	Raymond	2158	8215	0	0	0	84	28	28								0
5.1	South41	South41	2159	7243	0	0	0	384	128	128	0				27			27
5.1	South41	South41	2160	3941	0	0	0	3	3	3								0
5.1	South41	South41	2161	3845	0	0	0	1297	401	401	0	17						17
5.1	South41	South41	2162	6769	0	0	0	7	4	4	0							0
3.3	Madun	Madeast	2163A	1466	0	0	0	634	164	164	0				42			42
3.5	Madcity	STCC	2163B	1262			1262											0
5.1	South41	South41	2164	7855	0	0	0	1	2	2					16			16
5.1	South41	South41	2165	2741	0	0	0	1385	424	424	0							0
5.1	South41	South41	2166	634	0	0	0	1667	508	508	0							0
5.1	South41	South41	2167	649	0	0	0	712	211	211	0	66		16	21		57	160
5.1	South41	South41	2168	5483	0	0	0	48	15	15	0							0
5.1	South41	South41	2169	1934	0	0	0	271	61	61	0		15					15
5.1	South41	South41	2170	1971	0	0	0	4	2	2								0
5.1	South41	South41	2171A	5931	0	0	0	263	85	85	0				103	52		155
3.5	Madcity	STCC	2171B	265			265											0

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NO.	SUBAREA	SUBAREA2	TAZ	SIZEACRE	MADACRES	CHOWACRES	NGAACRES	POP90	TOTDUS90	SFDUS90	MFDUS90	RETEMP90	OFCEMP90	INDEMP90	OTHEMP90	GOVEMP90	EDEMP90	TOTEMP90
5.1	South41	South41	2172	4772	0	0	0	42	12	12	0				86			86
5.1	South41	South41	2173	3789	0	0	0	826	254	254	0							0
5.1	South41	South41	2174	5271	0	0	0	321	107	107	0			21				21
5.1	South41	South41	2175	769	0	0	0	611	193	193		26			13			39
5.1	South41	South41	2176	4007	0	0	0	155	44	44	0			30	37			67
5.1	South41	South41	2177	4553	0	0	0	12	3	3								0
5.1	South41	South41	2178A	2074	0	0	0	253	75	75	0							0
5.2	South41G	GRW	2178B	1135			1135	127	38	38								0
5.3	South41	RM	2179	6063	0	0	6063	10	5	5		0	0					0
5.3	South41	RM	2180	6250	0	0	6250	67	26	26	0	0	0					0
5.3	South41	RM	2181	1101	0	0	1101	2	1	1		0	0					0
5.3	South41	RM	2182	262	0	0	262	108	70	70	0							0
7	NFMill	NFMill	2183	5987	0	0	33	10	6	6	0							0
5.1	South41	South41	2184A	7449	0	0	0	66	25	25	0							0
5.3	South41	RM	2184B	2464			2464					0	0					0
7	NFMill	NFMill	2185	58575	0	0	0	646	253	253	0					133		133
6	North41	North41	2186	22401	0	0	0	1424	544	544	0	42		84				126
6	North41	North41	2187	20907	0	0	0	536	224	224	0	20	19	7				46
7	NFMill	NFMill	2188	3817	0	0	0	623	261	212	49	13				0	2	15
7	NFMill	NFMill	2189	28968	0	0	0	692	295	259	36	13	23				356	392
7	NFMill	NFMill	2190	1337	0	0	0	76	42	42	0				16	0		16
8	East	East	2191	295796	0	0	0											0
8	East	East	2192	126639	0	0	0											0
6	North41	North41	2193	24899	0	0	0	1718	742	586	156	14	17	50			121	202
6	North41	North41	2194	5439	0	0	0	1003	419	368	51			50			44	94
6	North41	North41	2195	5686	0	0	0	924	376	353	23							0
6	North41	North41	2196	8536	0	0	0	229	110	110	0							0
6	North41	North41	2197	15200	0	0	0	1169	606	557	49					41		41
6	North41	North41	2198	8629	0	0	0	622	763	726	27				262		169	431
6	North41	North41	2199	8109	0	0	0	771	429	429	0				17			17
6	North41	North41	2200	5367	0	0	0	1276	627	592	35	31	13					44
6	North41	North41	2201	2301	0	0	0	1274	541	467	74		332	158			171	661
6	North41	North41	2202	828	0	0	0	828	444	379	65			24			6	30
6	North41	North41	2203	3486	0	0	0	680	320	320	0							0
7	NFMill	NFMill	2204	813	0	0	0	105	38	38	0	30						30
2.1	ChowFair	Chowinc	2205	416	0	416	0	79	34	34	0				57			57
2.1	ChowFair	Chowinc	2206	115	0	115	0	584	233	181	52		78	36				114
2.1	ChowFair	Chowinc	2207	376	0	376	0	2647	1030	897	133		110	27			78	215
2.1	ChowFair	Chowinc	2208	88	0	88	0	82	34	12	22	195						195
2.2	ChowFair	Chowun	2209A	175	0	0	0	160	53	53	0	0		0	0			0
2.1	ChowFair	Chowinc	2209B	150		150		549	189	181	8	17		53	13			83
2.1	ChowFair	Chowinc	2210	178	0	178	0	1195	473	398	75	14					226	240
2.1	ChowFair	Chowinc	2211	110	0	110	0	777	275	190	85	14	0	42	0	68	2	126
2.2	ChowFair	Chowun	2212	320	0	150	0	6	2	2	0							0

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2.1	ChowFair	Chowinc	2213	668	0	668	0	51	21	21	0							0
4	Raymond	Raymond	2214	39512	0	0	0	216	58	48	10			7			17	24
3.3	Madun	Madnorth	2215	1587	0	0	0	1050	310	310	0				490		52	542
3.1	Madcity	OtherGP	2216	260	0	0	0	79	20	20	0							0
1	West	West	2217	2580	0	0	0	89	34	34	0				419			419
2.2	ChowFair	Chowun	2218	3393				13	4	4								0
3.3	Madun	Madnorth	2219	243	0	0	0	6	2	2	0				77	159		236
6	North41	North41	2220	2278	0	0	0	765	312	211	101	579	277	66	67			989
7	NFMill	NFMill	2221	13406	0	0	0	152	97	97	0							0
1	West	West	2222	16195	0	0	0	481	165	165	0							0
1	West	West	2223	23816	0	0	0	217	54	54	0				15			15

**MADERA COUNTY DRAFT GENERAL PLAN
2010 DEVELOPMENT LEVELS BY TAZ**

NO.	SUBAREA	SUBAREA2	TAZ	SIZEACRE	MADACRES	CHOWACRES	NGAACRES	SFDU2010	MFDU2010	TOTDU2010	RETEMP2010	OFCEMP2010	INDEMP2010	OTHEMP2010	GOVEMP2010	TOTEMP2010
1	West	West	2001	2303	0	0	0	14		14					67	67
1	West	West	2002	6385	0	0	0	79		79				63		63
1	West	West	2003	3565	0	0	0	109		109						0
1	West	West	2004	2187	0	0	0	27		27				19		19
1	West	West	2005	2188	0	0	0	8		8						0
1	West	West	2006	2479	0	0	0	45		45						0
1	West	West	2007	2582	0	0	0	32		32						0
1	West	West	2008	2600	0	0	0	33		33				26		26
1	West	West	2009	2548	0	0	0	42		42				15		15
1	West	West	2010	2359	0	0	0	40		40				16		16
1	West	West	2011	1932	0	0	0	32		32						0
1	West	West	2012	2104	0	0	0	41		41				18		18
1	West	West	2013	1772	0	0	0	37		37						0
2.2	ChowFair	Chowun	2014A	2974	0	0	0	40		38				40		40
2.1	ChowFair	Chowinc	2014B	210		210		363	50	413				14		14
2.2	ChowFair	Chowun	2015	1769	0	0	0	114		114	30	0		25		55
2.2	ChowFair	Chowun	2016	1333	0	0	0	90		90	30	0		40		70
2.2	ChowFair	Chowun	2017	2033	0	0	0	23		23			700	20		720
2.2	ChowFair	Chowun	2018	5741	0	0	0	65		65				75		75
2.2	ChowFair	Chowun	2019	2160	0	0	0	55		55			55	174		229
2.2	ChowFair	Chowun	2020	1653	0	0	0	75		75				20		20
2.2	ChowFair	Chowun	2021	244	0	0	0	10		10				20		20
2.2	ChowFair	Chowun	2022	2080	0	0	0	16		16				26		26
2.2	ChowFair	Chowun	2023	2535	0	0	0	34		34				20		20
1	West	West	2024	2861	0	0	0	36		36			14			14
1	West	West	2025	2897	0	0	0	50		50				15		15
1	West	West	2026	1923	0	0	0	47		47						0
3.3	Madun	Madnorth	2027	1295	0	0	0	60		60				237		237
1	West	West	2028	4482	0	0	0	39		39						0
1	West	West	2029	2881	0	0	0	18		18						0
1	West	West	2030	3866	0	0	0	64		64						0
1	West	West	2031	2857	0	0	0	27		27						0
1	West	West	2032	8546	0	0	0	54		54						0
1	West	West	2033	2934	0	0	0	54		54				16	50	66
1	West	West	2034	1948	0	0	0	78		78				179		179
3.3	Madun	Madnorth	2035	1999	0	0	0	64		64			14	50		64
3.3	Madun	Madnorth	2036	729	0	0	0	40		40				100		100
1	West	West	2037	3403	0	0	0	42		42						0
1	West	West	2038	6516	0	0	0	84		84				43		43
3.3	Madun	Madnorth	2039	1337	0	0	0	17		17				189		189
3.1	Madcity	Traffic	2040	328	328	0	0	79	199	278	193	37	1216	1236		2682
3.1	Madcity	Traffic	2041	90	90	0	0	62	0	62	673	56	0	15		744
1	West	West	2042	39018	0	0	0	182		182				157		157
1	West	West	2043	743	0	0	0	5		5						0

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1	West	West	2044	1090	0	0	0	14		14						0
1	West	West	2045	1339	0	0	0	17		17						0
1	West	West	2046	11005	0	0	0	30		30				22		22
1	West	West	2047	3159	0	0	0	39		39						0
1	West	West	2048	11055	0	0	0	43		43				114		114
1	West	West	2049	2444	0	0	0	31		31				18		18
1	West	West	2050	3847	0	0	0	48		48				15		15
1	West	West	2051	5160	366	0	0	60		60					56	56
1	West	West	2052	24446	0	0	0	155		155				215		215
1	West	West	2053	10177	0	0	0	150		150				394		394
1	West	West	2054	6480	0	0	0	88		88				32	50	82
1	West	West	2055	6463	0	0	0	190	73	263			36	315		351
1	West	West	2056	6460	0	0	0	143		143				382	45	427
1	West	West	2057	3857	0	0	0	114		114			117	122		239
1	West	West	2058	2198	0	0	0	137		137						0
1	West	West	2059	4110	0	0	0	102		102				50	82	132
1	West	West	2060	6628	0	0	0	105		105			60	91		151
3.1	Madc	OtherGP	2061	955	0	0	0	16	0	16	0	0	427	0		427
3.1	Madc	OtherGP	2062	642	0	0	0	48	0	48	0	0	0	0		0
3.1	Madc	OtherGP	2063	161	40	0	0	590	0	590	36	0	0	0		36
3.1	Madc	OtherGP	2064	160	0	0	0	70	0	70	23	0	0	0		23
3.1	Madc	OtherGP	2065	159	0	0	0	25	0	25	0	0	0	15		15
3.1	Madc	OtherGP	2066	1297	40	0	0	816	0	816	0	0	0	0		0
3.1	Madc	OtherGP	2067	1432	1107	0	0	17	0	17	0	59	304	203		566
3.1	Madc	Traffic	2068	282	282	0	0	122	138	260	327	113	0	103		543
3.1	Madc	Traffic	2069	301	301	0	0	446	73	519	0	0	0	0		0
3.1	Madc	Traffic	2070	341	341	0	0	500	140	640	0	0	0	0		0
3.1	Madc	Traffic	2071	163	122	0	0	500	61	561	0	0	0	0		0
3.1	Madc	Traffic	2072	159	159	0	0	608	17	625	0	0	0	0		0
3.1	Madc	Traffic	2073	158	125	0	0	461	47	508	0	0	0	10		10
3.1	Madc	Traffic	2074	151	151	0	0	8	54	62	10	0	1749	10		1769
3.1	Madc	Traffic	2075	165	20	0	0	689	120	809	21	0	54	0		75
3.1	Madc	Traffic	2076	160	100	0	0	2	36	38	355	171	638	177		1341
3.1	Madc	Traffic	2077	328	165	0	0	7	0	7	74	33	812	59		978
3.1	Madc	Traffic	2078	163	163	0	0	1	0	1	0	0	304	0		304
3.1	Madc	OtherGP	2079	163	0	0	0	1	0	1	0	0	215	0		215
3.1	Madc	Traffic	2080	319	319	0	0	0	0	0	0	0	507	0		507
3.1	Madc	OtherGP	2081	322	0	0	0	17	0	17	0	0	325	0		325
3.1	Madc	Traffic	2082	158	80	0	0	302	259	561	82	14	72	103	300	571
3.1	Madc	Traffic	2083	162	162	0	0	380	163	543	121	48	99	103	50	421
3.1	Madc	Traffic	2084	125	125	0	0	107	303	410	41	176	0	103		320
3.1	Madc	Traffic	2085	160	0	0	0	9	0	9	0	0	116	72		188
3.1	Madc	Traffic	2086	161	0	0	0	2	0	2	42	0	20	103		165
3.1	Madc	OtherGP	2087	158	0	0	0	8	0	8	0	0	104	0		104

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3.1	Madcity	OtherGP	2088	165	0	0	0	7	0	7	23	0	0	0		23
3.1	Madcity	OtherGP	2089	319	0	0	0	1	0	1	0	0	0	0		0
3.1	Madcity	Traffic	2090	284	284	0	0	177	333	510	181	460	0	103		744
3.1	Madcity	OtherGP	2091	973	973	0	0	816	170	986	66	70	116	0		252
3.1	Madcity	Traffic	2092	457	457	0	0	741	168	909	0	89	0	0	150	239
3.1	Madcity	Traffic	2093	162	162	0	0	492	12	504	209	0	0	0		209
3.1	Madcity	Traffic	2094	22	22	0	0	72	18	90	22	92	0	0		114
3.1	Madcity	Traffic	2095	105	105	0	0	249	109	358	55	175	0	0		230
3.1	Madcity	Traffic	2096	141	141	0	0	296	197	493	394	219	0	0		613
3.1	Madcity	OtherGP	2097	511	0	0	0	251	0	251	60	11	0	721		792
3.1	Madcity	Traffic	2098	256	0	0	0	176	0	176	31	0	0	0		31
3.1	Madcity	Traffic	2099	161	0	0	0	104	0	104	0	0	0	0		0
3.1	Madcity	OtherGP	2100	631	0	0	0	49	0	49	33	0	0	0		33
3.1	Madcity	Traffic	2101	135	0	0	0	48	58	106	79	0	0	0		79
3.1	Madcity	Traffic	2102	110	35	0	0	204	40	244	348	29	0	0		377
3.1	Madcity	Traffic	2103	67	0	0	0	139	61	200	0	0	0	0		0
3.1	Madcity	Traffic	2104	308	150	0	0	317	76	393	0	0	0	0	50	50
3.1	Madcity	Traffic	2105	143	0	0	0	13	0	13	75	0	0	0		75
3.1	Madcity	Traffic	2106	331	30	0	0	96	256	352	24	0	0	515		539
3.1	Madcity	Traffic	2107	210	70	0	0	371	0	371	101	0	153	0	40	294
3.1	Madcity	OtherGP	2108	163	0	0	0	22	0	22	0	0	215	0		215
3.1	Madcity	Traffic	2109	130	130	0	0	37	40	77	992	107	17	0		1116
3.1	Madcity	Traffic	2110	225	225	0	0	462	205	667	898	206	0	0		1104
3.1	Madcity	Traffic	2111	142	142	0	0	326	229	555	72	0	0	0		72
3.1	Madcity	Traffic	2112	255	225	0	0	741	212	953	43	0	0	0		43
3.1	Madcity	Traffic	2113	170	170	0	0	333	106	439	174	75	0	103		352
3.1	Madcity	Traffic	2114	123	123	0	0	334	50	384	85	0	0	67	40	192
3.1	Madcity	Traffic	2115	174	174	0	0	244	325	569	124	34	0	55		213
3.1	Madcity	Traffic	2116	365	265	0	0	665	154	819	103	84	19	224		430
3.1	Madcity	Traffic	2117	158	0	0	0	101	0	101	0	0	115	0		115
3.1	Madcity	OtherGP	2118	161	0	0	0	17	0	17	0	0	215	0		215
3.1	Madcity	Traffic	2119	73	73	0	0	229	180	409	591	477	91	610		1769
3.1	Madcity	Traffic	2120	93	93	0	0	108	158	266	870	847	45	152		1914
3.1	Madcity	Traffic	2121	63	63	0	0	84	87	171	720	244	0	0		964
3.1	Madcity	Traffic	2122	107	107	0	0	140	124	264	1301	434	52	572		2359
3.1	Madcity	Traffic	2123	65	65	0	0	59	27	86	85	5	0	190		280
3.1	Madcity	Traffic	2124	123	123	0	0	304	0	304	211	7	0	309		527
3.1	Madcity	Traffic	2125	159	159	0	0	368	137	505	32	0	0	0		32
3.1	Madcity	Traffic	2126	158	0	0	0	50	20	70	14	0	0	0		14
3.1	Madcity	OtherGP	2127	163	0	0	0	4	0	4	0	0	0	0		0
3.1	Madcity	Traffic	2128	219	0	0	0	100	50	150	0	128	0	103		231
3.1	Madcity	Traffic	2129	157	0	0	0	37	0	37	0	0	0	0		0
3.1	Madcity	OtherGP	2130	159	0	0	0	13	0	13	0	0	0	0		0
3.1	Madcity	Traffic	2131	150	0	0	0	69	0	69	0	0	0	0	40	40

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3.1	Madcity	OtherGP	2132	159	0	0	0	239	0	239	0	0	0	0		0
3.5	Madcity	STCC	2133	305	0	0	305				0	300	400	400		1100
2.2	ChowFair	Chowun	2134A	4829	0	0	0	30		30				20		20
2.1	ChowFair	Chowinc	2134B	653		653		215	50	265	0			20		20
4	Raymond	Raymond	2135	9062	0	0	0	60		60				100		100
2.2	ChowFair	Chowun	2136A	1361	0	0	0	30		30			70	20		90
2.1	ChowFair	Chowinc	2136B	903	0	903		470	100	570	90			20		660
2.2	ChowFair	Chowun	2137	3881	0	0	0	10		10				20	750	770
4	Raymond	Raymond	2138	2579	0	0	0	10		10				50		50
4	Raymond	Raymond	2139	2536	0	0	0	10		10				10		10
2.2	ChowFair	Chowun	2140	5915	0	0	0	407	40	447	40	0	375	20	880	1315
4	Raymond	Raymond	2141	4483	0	0	0	15		15				65		65
4	Raymond	Raymond	2142	4033	0	0	0	30		30				10		10
3.3	Madun	Madnorth	2143	2478	0	0	0	50		50			100	40		140
3.3	Madun	Madnorth	2144	2407	0	0	0	90		90	100		13	40		153
3.3	Madun	Madnorth	2145	616	0	0	0	250		250				40	0	40
3.3	Madun	Madnorth	2146	1939	0	0	0	1804		1879		39	100	15		154
4	Raymond	Raymond	2147	36906	0	0	0	201	40	241	50			10		60
4	Raymond	Raymond	2148	8646	0	0	0	10		10				10		10
4	Raymond	Raymond	2149	10871	0	0	0	127		127	25			10		35
3.3	Madun	Madnorth	2150	4854	0	0	0	625		625				40		40
4	Raymond	Raymond	2151	13833	0	0	0	285		285				10		10
4	Raymond	Raymond	2152	6827	0	0	0	10		10				10		10
4	Raymond	Raymond	2153	28032	0	0	0	128	50	178	25	50	268	10		353
4	Raymond	Raymond	2154	13868	0	0	0	85		85				10		10
6	North41	North41	2155	14102	0	0	0	2259		2259	200	150		50	0	400
6	North41	North41	2156	22251	0	0	0	130		130	0			40	258	298
6	North41	North41	2157	19363	0	0	0	60		60	0			200	0	200
4	Raymond	Raymond	2158	8215	0	0	0	82		82				10		10
5.1	South41	South41	2159	7243	0	0	0	280		280				27		27
5.1	South41	South41	2160	3941	0	0	0	10		10				10		10
5.1	South41	South41	2161	3845	0	0	0	1100		1100	125			10		135
5.1	South41	South41	2162	6769	0	0	0	47		47				50		50
3.3	Madun	Madeast	2163A	1466	0	0	0	330	75	330						0
3.5	Madcity	STCC	2163B	1262			1262	1470	280	1750	300	50			550	900
5.1	South41	South41	2164	7855	0	0	0	75		75				16		16
5.1	South41	South41	2165	2741	0	0	0	800		800	25			10	100	135
5.1	South41	South41	2166	634	0	0	0	565		565	75	75		10		160
5.1	South41	South41	2167	649	0	0	0	357		357	75		16	21	100	212
5.1	South41	South41	2168	5483	0	0	0	30		30				10		10
5.1	South41	South41	2169	1934	0	0	0	162		162	100	125		10		235
5.1	South41	South41	2170	1971	0	0	0	15		15				10		10
5.1	South41	South41	2171A	5931	0	0	0	96		96			300	163		463
3.5	Madcity	STCC	2171B	265			265	480	270	750		50				50

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5.1	South41	South41	2172	4772	0	0	0	100		100				90		90
5.1	South41	South41	2173	3789	0	0	0	316		316	300	75		10		385
5.1	South41	South41	2174	5271	0	0	0	107		107			125	10		135
5.1	South41	South41	2175	769	0	0	0	307		307	200			13		213
5.1	South41	South41	2176	4007	0	0	0	200		200			159	100		259
5.1	South41	South41	2177	4553	0	0	0	10		10				10		10
5.1	South41	South41	2178A	2074	0	0	0	75		75				10		10
5.2	South41G	GRW	2178B	1135			1135	1160	290	1450	500	1100		400	2250	4250
5.3	South41	RM	2179	6063	0	0	6063	360	40	400	50	25	100	300	50	525
5.3	South41	RM	2180	6250	0	0	6250	2160	240	2400	400	250	300	300	100	1350
5.3	South41	RM	2181	1101	0	0	1101	495	55	550	150	50	200	100	50	550
5.3	South41	RM	2182	262	0	0	262	13		13					0	0
7	NFMill	NFMill	2183	5987	0	0	33	16		16						0
5.1	South41	South41	2184A	7449	0	0	0	75		75				10		10
5.3	South41	RM	2184B	2464			2464	300	37	337	50	25			50	125
7	NFMill	NFMill	2185	58575	0	0	0	313		313	25				150	175
6	North41	North41	2186	22401	0	0	0	1150		1150	150		275	50	0	475
6	North41	North41	2187	20907	0	0	0	450		450	133	50	125	20	0	328
7	NFMill	NFMill	2188	3817	0	0	0	324	117	441	50			20	25	95
7	NFMill	NFMill	2189	28968	0	0	0	443	62	505	50	50	25	10	375	510
7	NFMill	NFMill	2190	1337	0	0	0	92		92			100	70		170
8	East	East	2191	295796	0	0	0	200		200						0
8	East	East	2192	126639	0	0	0	200		200						0
6	North41	North41	2193	24899	0	0	0	1050	300	1350	216	50	300	200	222	988
6	North41	North41	2194	5439	0	0	0	750	100	850	210		50	50	88	398
6	North41	North41	2195	5686	0	0	0	550	80	630	20			50	0	70
6	North41	North41	2196	8536	0	0	0	160		160	30			20	0	50
6	North41	North41	2197	15200	0	0	0	850	150	1000	50			20	82	152
6	North41	North41	2198	8629	0	0	0	925	75	1000	100			300	338	738
6	North41	North41	2199	8109	0	0	0	450		450	20			30	0	50
6	North41	North41	2200	5367	0	0	0	900	100	1000	175	100		50	0	325
6	North41	North41	2201	2301	0	0	0	750	200	950	246	350	200	50	300	1146
6	North41	North41	2202	828	0	0	0	600	200	800	50	300	50	50	12	462
6	North41	North41	2203	3486	0	0	0	450		450	0			20	0	20
7	NFMill	NFMill	2204	813	0	0	0	106	12	118	50					50
2.1	ChowFair	Chowinc	2205	416	0	416	0	34		34			114	65		179
2.1	ChowFair	Chowinc	2206	115	0	115	0	181	73	254		128	36	0		164
2.1	ChowFair	Chowinc	2207	376	0	376	0	897	170	1067		150	27	0	100	277
2.1	ChowFair	Chowinc	2208	88	0	88	0	12	22	34	295	22		0		317
2.2	ChowFair	Chowun	2209A	175	0	0	0	70		70				20		20
2.1	ChowFair	Chowinc	2209B	150		150		181	8	189	47		153	27		227
2.1	ChowFair	Chowinc	2210	178	0	178	0	422	85	507	46			14	250	310
2.1	ChowFair	Chowinc	2211	110	0	110	0	204	92	296	47		70	0	125	242
2.2	ChowFair	Chowun	2212	320	0	150	0	2		2				20		20

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2.1	ChowFair	Chowinc	2213	668	0	668	0	21		21			100	40		140
4	Raymond	Raymond	2214	39512	0	0	0	78	30	108			7	10	50	67
3.3	Madun	Madnorth	2215	1587	0	0	0	645		645				590	75	665
3.1	Madcity	OtherGP	2216	260	0	0	0	20	0	20	0	0	0	0		0
1	West	West	2217	2580	0	0	0	38		38				469		469
2.2	ChowFair	Chowun	2218	3393				10		10				20		20
3.3	Madun	Madnorth	2219	243	0	0	0	2		2			150	259		409
6	North41	North41	2220	2278	0	0	0	600	200	800	1300	400	200	300	0	2200
7	NFMill	NFMill	2221	13406	0	0	0	141		141						0
1	West	West	2222	16195	0	0	0	350		350						0
1	West	West	2223	23816	0	0	0	150		150				17		17

**MADERA COUNTY DRAFT GENERAL PLAN
BUILDOUT BY TAZ**

NO.	SUBAREA	SUBAREA2	TAZ	SIZEACRE	MADACRES	CHOWACRES	NGAACRES	BOSFDUS	BOMFDUS	BOTOTDUS	BORETEMP	BOOFCEMP	BOINDEMP	BOOTHEMP	BOGOVEDEMP	BOTOTEMP
1	West	West	2001	2303	0	0	0	29	0	29	0	0	0	0	67	67
1	West	West	2002	6385	0	0	0	79	0	79	0	0	1254	63	0	1317
1	West	West	2003	3565	0	0	0	110	0	110	0	0	0	139	0	139
1	West	West	2004	2187	0	0	0	27	0	27	0	0	0	19	0	19
1	West	West	2005	2188	0	0	0	27	0	27	0	0	0	693	0	693
1	West	West	2006	2479	0	0	0	31	0	31	0	0	0	0	0	0
1	West	West	2007	2582	0	0	0	32	0	32	0	0	0	0	0	0
1	West	West	2008	2600	0	0	0	33	0	33	0	0	0	26	0	26
1	West	West	2009	2548	0	0	0	32	0	32	0	0	0	15	0	15
1	West	West	2010	2359	0	0	0	29	0	29	0	0	0	16	0	16
1	West	West	2011	1932	0	0	0	24	0	24	0	0	0	0	0	0
1	West	West	2012	2104	0	0	0	26	0	26	0	0	0	18	0	18
1	West	West	2013	1772	0	0	0	22	0	22	0	0	0	0	0	0
2.2	ChowFair	Chowun	2014A	2974	0	0	0	90	0	90	0	0	224	179	0	403
2.1	ChowFair	Chowinc	2014B	210		210		900	100	1000	25			14		39
2.2	ChowFair	Chowun	2015	1769	0	0	0	377	581	958	1228	0	0	25	0	1253
2.2	ChowFair	Chowun	2016	1333	0	0	0	226	567	793	2138	0	1967	40	0	4145
2.2	ChowFair	Chowun	2017	2033	0	0	0	0	0	0	0	0	26836	20	0	26856
2.2	ChowFair	Chowun	2018	5741	0	0	0	99	0	99	0	0	0	337	0	337
2.2	ChowFair	Chowun	2019	2160	0	0	0	75	0	75	0	0	55	1663	0	1718
2.2	ChowFair	Chowun	2020	1653	0	0	0	21	0	21	0	0	0	20	0	20
2.2	ChowFair	Chowun	2021	244	0	0	0	3	0	3	0	0	0	20	0	20
2.2	ChowFair	Chowun	2022	2080	0	0	0	26	0	26	0	0	0	26	0	26
2.2	ChowFair	Chowun	2023	2535	0	0	0	32	0	32	0	0	0	20	0	20
1	West	West	2024	2861	0	0	0	36	0	36	139	0	14	0	0	153
1	West	West	2025	2897	0	0	0	51	0	51	0	0	0	15	0	15
1	West	West	2026	1923	0	0	0	47	0	47	0	0	0	0	0	0
3.3	Madun	Madnorth	2027	1295	0	0	0	60	0	43	0	0	990	891	0	1881
1	West	West	2028	4482	0	0	0	56	0	56	0	0	0	0	0	0
1	West	West	2029	2881	0	0	0	36	0	36	0	0	0	0	0	0
1	West	West	2030	3866	0	0	0	48	0	48	0	0	0	0	0	0
1	West	West	2031	2857	0	0	0	36	0	36	0	0	0	0	0	0
1	West	West	2032	8546	0	0	0	107	0	107	0	0	0	0	0	0
1	West	West	2033	2934	0	0	0	54	0	54	0	0	0	16	50	66
1	West	West	2034	1948	0	0	0	78	0	78	99	0	0	179	0	278
3.3	Madun	Madnorth	2035	1999	0	0	0	64	0	64	0	0	14	178	0	192
3.3	Madun	Madnorth	2036	729	0	0	0	40	0	40	0	0	1188	495	0	1683
1	West	West	2037	3403	0	0	0	42	0	42	158	0	0	0	0	158
1	West	West	2038	6516	0	0	0	84	0	84	0	0	0	43	0	43
3.3	Madun	Madnorth	2039	1337	0	0	0	17	0	17	0	0	0	189	0	189
3.1	Madcity	Traffic	2040	328	328	0	0	0	500	500	193	102	6349	3108	0	9752
3.1	Madcity	Traffic	2041	90	90	0	0	99	17	116	863	131	0	136	0	1130
1	West	West	2042	39018	0	0	0	489	0	489	0	0	0	157	0	157
1	West	West	2043	743	0	0	0	9	0	9	0	0	0	0	0	0

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1	West	West	2044	1090	0	0	0	14	0	14	0	0	0	0	0	0
1	West	West	2045	1339	0	0	0	17	0	17	0	0	0	0	0	0
1	West	West	2046	11005	0	0	0	138	0	138	0	0	0	22	0	22
1	West	West	2047	3159	0	0	0	39	0	39	0	0	0	0	0	0
1	West	West	2048	11055	0	0	0	138	0	138	0	0	0	114	0	114
1	West	West	2049	2444	0	0	0	31	0	31	0	0	0	18	0	18
1	West	West	2050	3847	0	0	0	48	0	48	99	0	0	15	0	114
1	West	West	2051	5160	366	0	0	60	0	60	20	0	0	0	56	76
1	West	West	2052	24446	0	0	0	327	0	327	20	0	0	215	0	235
1	West	West	2053	10177	0	0	0	150	0	150	139	0	0	394	0	533
1	West	West	2054	6480	0	0	0	81	0	81	0	0	0	32	50	82
1	West	West	2055	6463	0	0	0	163	259	422	40	0	36	315	0	391
1	West	West	2056	6460	0	0	0	104	0	104	99	0	0	382	45	526
1	West	West	2057	3857	0	0	0	114	0	114	0	0	699	871	0	1570
1	West	West	2058	2198	0	0	0	137	0	137	0	0	0	772	0	772
1	West	West	2059	4110	0	0	0	77	0	77	59	0	0	871	82	1012
1	West	West	2060	6628	0	0	0	105	0	105	79	0	60	396	0	535
3.1	Madcity	OtherGP	2061	955	0	0	0	24	0	24	0	0	6270	0	0	6270
3.1	Madcity	OtherGP	2062	642	0	0	0	32	0	32	0	0	0	0	0	0
3.1	Madcity	OtherGP	2063	161	40	0	0	842	0	842	158	0	0	0	0	158
3.1	Madcity	OtherGP	2064	160	0	0	0	853	0	853	99	0	0	0	0	99
3.1	Madcity	OtherGP	2065	159	0	0	0	292	1368	1660	0	0	0	40	0	40
3.1	Madcity	OtherGP	2066	1297	40	0	0	1147	0	1147	0	0	0	0	0	0
3.1	Madcity	OtherGP	2067	1432	1107	0	0	24	0	24	0	198	3102	594	0	3894
3.1	Madcity	Traffic	2068	282	282	0	0	174	346	520	1420	376	0	255	0	2051
3.1	Madcity	Traffic	2069	301	301	0	0	546	185	731	0	0	0	0	0	0
3.1	Madcity	Traffic	2070	341	341	0	0	708	350	1058	0	0	0	0	0	0
3.1	Madcity	Traffic	2071	163	122	0	0	806	155	961	0	0	0	0	0	0
3.1	Madcity	Traffic	2072	159	159	0	0	700	0	700	0	0	0	0	0	0
3.1	Madcity	Traffic	2073	158	125	0	0	655	117	772	0	0	0	52	0	52
3.1	Madcity	Traffic	2074	151	151	0	0	0	64	64	42	0	3909	57	0	4008
3.1	Madcity	Traffic	2075	165	20	0	0	633	423	1056	92	0	54	0	0	146
3.1	Madcity	Traffic	2076	160	100	0	0	0	45	45	573	235	3882	177	0	4867
3.1	Madcity	Traffic	2077	328	165	0	0	0	99	99	74	33	4763	59	0	4929
3.1	Madcity	Traffic	2078	163	163	0	0	633	423	1056	0	0	2500	0	0	2500
3.1	Madcity	OtherGP	2079	163	0	0	0	0	0	0	0	0	2152	0	0	2152
3.1	Madcity	Traffic	2080	319	319	0	0	0	34	34	0	0	3882	0	0	3882
3.1	Madcity	OtherGP	2081	322	0	0	0	0	0	0	0	0	4250	0	0	4250
3.1	Madcity	Traffic	2082	158	80	0	0	381	572	953	235	14	644	240	300	1433
3.1	Madcity	Traffic	2083	162	162	0	0	438	288	726	284	65	989	290	50	1678
3.1	Madcity	Traffic	2084	125	125	0	0	113	356	469	87	475	0	278	0	840
3.1	Madcity	Traffic	2085	160	0	0	0	381	572	953	0	0	1162	200	0	1362
3.1	Madcity	Traffic	2086	161	0	0	0	420	278	698	182	0	200	287	0	669
3.1	Madcity	OtherGP	2087	158	0	0	0	435	0	435	0	0	1043	0	0	1043

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3.1	Madcity	OtherGP	2088	165	0	0	0	715	200	915	99	0	0	0	0	99
3.1	Madcity	OtherGP	2089	319	0	0	0	8	0	8	0	0	0	0	0	0
3.1	Madcity	Traffic	2090	284	284	0	0	225	706	931	316	942	0	552	0	1810
3.1	Madcity	OtherGP	2091	973	973	0	0	636	168	804	100	0	116	0	0	216
3.1	Madcity	Traffic	2092	457	457	0	0	930	0	930	0	122	0	0	150	272
3.1	Madcity	Traffic	2093	162	162	0	0	518	0	518	476	0	0	0	0	476
3.1	Madcity	Traffic	2094	22	22	0	0	87	45	132	69	291	0	0	0	360
3.1	Madcity	Traffic	2095	105	105	0	0	194	0	194	118	498	0	0	0	616
3.1	Madcity	Traffic	2096	141	141	0	0	317	57	374	647	219	0	0	0	866
3.1	Madcity	OtherGP	2097	511	0	0	0	620	396	1016	100	15	0	1555	0	1670
3.1	Madcity	Traffic	2098	256	0	0	0	837	0	837	135	0	0	0	0	135
3.1	Madcity	Traffic	2099	161	0	0	0	631	36	667	0	0	0	0	0	0
3.1	Madcity	OtherGP	2100	631	0	0	0	1581	306	1887	33	0	0	0	0	33
3.1	Madcity	Traffic	2101	135	0	0	0	38	589	627	345	0	0	0	0	345
3.1	Madcity	Traffic	2102	110	35	0	0	289	101	390	591	95	0	0	0	686
3.1	Madcity	Traffic	2103	67	0	0	0	174	10	184	0	0	0	0	0	0
3.1	Madcity	Traffic	2104	308	150	0	0	979	190	1169	0	0	0	0	50	50
3.1	Madcity	Traffic	2105	143	0	0	0	316	82	398	325	0	0	0	0	325
3.1	Madcity	Traffic	2106	331	30	0	0	102	27	129	105	0	0	2093	0	2198
3.1	Madcity	Traffic	2107	210	70	0	0	428	111	539	440	0	1525	0	40	2005
3.1	Madcity	OtherGP	2108	163	0	0	0	0	0	0	0	0	2152	0	0	2152
3.1	Madcity	Traffic	2109	130	130	0	0	31	496	527	4000	313	17	0	0	4330
3.1	Madcity	Traffic	2110	225	225	0	0	544	611	1155	1882	756	0	0	0	2638
3.1	Madcity	Traffic	2111	142	142	0	0	332	372	704	142	0	0	0	0	142
3.1	Madcity	Traffic	2112	255	225	0	0	1036	268	1304	171	0	0	0	0	171
3.1	Madcity	Traffic	2113	170	170	0	0	272	117	389	513	204	0	114	0	831
3.1	Madcity	Traffic	2114	123	123	0	0	343	83	426	313	0	0	67	40	420
3.1	Madcity	Traffic	2115	174	174	0	0	333	538	871	422	47	12	55	0	536
3.1	Madcity	Traffic	2116	365	265	0	0	724	193	917	224	115	190	224	0	753
3.1	Madcity	Traffic	2117	158	0	0	0	96	148	244	0	0	1147	0	0	1147
3.1	Madcity	OtherGP	2118	161	0	0	0	0	0	0	0	0	2152	0	0	2152
3.1	Madcity	Traffic	2119	73	73	0	0	159	170	329	1133	549	91	610	0	2383
3.1	Madcity	Traffic	2120	93	93	0	0	44	18	62	1695	1165	45	152	0	3057
3.1	Madcity	Traffic	2121	63	63	0	0	54	52	106	1402	335	0	0	0	1737
3.1	Madcity	Traffic	2122	107	107	0	0	68	155	223	2535	584	52	572	0	3743
3.1	Madcity	Traffic	2123	65	65	0	0	25	0	25	138	7	0	190	0	335
3.1	Madcity	Traffic	2124	123	123	0	0	235	0	235	658	9	0	753	0	1420
3.1	Madcity	Traffic	2125	159	159	0	0	431	260	691	138	0	0	0	0	138
3.1	Madcity	Traffic	2126	158	0	0	0	194	117	311	62	0	0	0	0	62
3.1	Madcity	OtherGP	2127	163	0	0	0	8	0	8	0	0	0	0	0	0
3.1	Madcity	Traffic	2128	219	0	0	0	1034	209	1243	0	425	0	577	0	1002
3.1	Madcity	Traffic	2129	157	0	0	0	270	55	325	0	0	0	0	0	0
3.1	Madcity	OtherGP	2130	159	0	0	0	59	0	59	0	0	0	0	0	0
3.1	Madcity	Traffic	2131	150	0	0	0	108	22	130	0	0	0	0	40	40

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3.1	Madcity	OtherGP	2132	159	0	0	0	159	0	159	0	0	0	0	0	0
3.5	Madcity	STCC	2133	305	0	0	305	0	0	0	238	2249	2508	835	0	5830
2.2	ChowFair	Chowun	2134A	4829	0	0	0	69	0	69	0	0	0	20	0	20
2.1	ChowFair	Chowinc	2134B	653		653		460	200	660	86	0	0	40	0	126
4	Raymond	Raymond	2135	9062	0	0	0	113	0	113	0	0	0	100	0	100
2.2	ChowFair	Chowun	2136A	1361	0	0	0	108	0	108	0	0	370	20	0	390
2.1	ChowFair	Chowinc	2136B	903	0	903		1000	520	1520	200	0	0	40	0	240
2.2	ChowFair	Chowun	2137	3881	0	0	0	51	0	51	0	0	0	20	750	770
4	Raymond	Raymond	2138	2579	0	0	0	148	0	148	0	0	0	297	0	297
4	Raymond	Raymond	2139	2536	0	0	0	36	0	36	0	0	0	10	0	10
2.2	ChowFair	Chowun	2140	5915	0	0	0	1281	0	1281	59	0	1452	20	880	2411
4	Raymond	Raymond	2141	4483	0	0	0	71	0	71	0	0	0	65	0	65
4	Raymond	Raymond	2142	4033	0	0	0	90	0	90	0	0	0	10	0	10
3.3	Madun	Madnorth	2143	2478	0	0	0	50	0	50	0	0	3762	40	0	3802
3.3	Madun	Madnorth	2144	2407	0	0	0	137	0	137	670	122	13	40	0	845
3.3	Madun	Madnorth	2145	616	0	0	0	258	0	258	0	0	0	40	0	40
3.3	Madun	Madnorth	2146	1939	0	0	0	2000	0	1879	0	39	884	15	0	938
4	Raymond	Raymond	2147	36906	0	0	0	1150	56	1206	337	0	0	10	0	347
4	Raymond	Raymond	2148	8646	0	0	0	120	0	120	0	0	0	10	0	10
4	Raymond	Raymond	2149	10871	0	0	0	383	0	383	178	0	0	10	0	188
3.3	Madun	Madnorth	2150	4854	0	0	0	564	0	564	0	0	0	40	0	40
4	Raymond	Raymond	2151	13833	0	0	0	806	0	806	99	0	0	10	0	109
4	Raymond	Raymond	2152	6827	0	0	0	77	0	77	0	0	0	10	0	10
4	Raymond	Raymond	2153	28032	0	0	0	1745	389	2134	297	50	1439	10	0	1796
4	Raymond	Raymond	2154	13868	0	0	0	512	0	512	0	0	0	10	0	10
6	North41	North41	2155	14102	0	0	0	4136	0	4136	871	150	0	59	0	1080
6	North41	North41	2156	22251	0	0	0	384	0	384	0	0	0	119	258	377
6	North41	North41	2157	19363	0	0	0	242	0	242	0	0	0	554	0	554
4	Raymond	Raymond	2158	8215	0	0	0	160	0	160	0	0	0	10	0	10
5.1	South41	South41	2159	7243	0	0	0	321	0	321	0	0	0	27	0	27
5.1	South41	South41	2160	3941	0	0	0	49	0	49	0	0	0	10	0	10
5.1	South41	South41	2161	3845	0	0	0	1157	0	1157	831	0	0	10	0	841
5.1	South41	South41	2162	6769	0	0	0	85	0	85	0	0	0	59	0	59
3.3	Madun	Madeast	2163A	1466	0	0	0	330	740	1055	0	0	42	0	0	42
3.5	Madcity	STCC	2163B	1262			1262	3561	436	3997	693	560	475	0	550	2278
5.1	South41	South41	2164	7855	0	0	0	166	0	166	0	0	0	16	0	16
5.1	South41	South41	2165	2741	0	0	0	866	0	866	139	0	0	10	100	249
5.1	South41	South41	2166	634	0	0	0	565	0	565	317	257	0	10	0	584
5.1	South41	South41	2167	649	0	0	0	357	0	357	75	0	16	21	100	212
5.1	South41	South41	2168	5483	0	0	0	69	0	69	0	0	0	10	0	10
5.1	South41	South41	2169	1934	0	0	0	162	0	162	495	495	0	10	0	1000
5.1	South41	South41	2170	1971	0	0	0	25	0	25	0	0	0	10	0	10
5.1	South41	South41	2171A	5931	0	0	0	96	0	96	0	0	6718	772	0	7490
3.5	Madcity	STCC	2171B	265			265	842	508	1350	277	747	0	0	0	1024

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5.1	South41	South41	2172	4772	0	0	0	244	0	244	0	0	0	90	0	90
5.1	South41	South41	2173	3789	0	0	0	316	0	316	1426	297	0	10	0	1733
5.1	South41	South41	2174	5271	0	0	0	65	0	65	0	0	1056	10	0	1066
5.1	South41	South41	2175	769	0	0	0	307	0	307	693	0	0	13	0	706
5.1	South41	South41	2176	4007	0	0	0	668	0	668	0	0	4831	594	0	5425
5.1	South41	South41	2177	4553	0	0	0	57	0	57	0	0	0	10	0	10
5.1	South41	South41	2178A	2074	0	0	0	75	0	75	0	0	0	10	0	10
5.2	South41G	GRW	2178B	1135			1135	2106	908	3014	4138	2000	0	400	2250	8788
5.3	South41	RM	2179	6063	0	0	6063	4400	619	5019	142	71	990	1051	50	2304
5.3	South41	RM	2180	6250	0	0	6250	14864	2394	17258	1177	588	2772	1568	100	6205
5.3	South41	RM	2181	1101	0	0	1101	3060	531	3591	360	71	990	434	50	1905
5.3	South41	RM	2182	262	0	0	262	13	0	13	0	0	0	0	0	0
7	NFMill	NFMill	2183	5987	0	0	33	74	0	74	0	0	0	0	0	0
5.1	South41	South41	2184A	7449	0	0	0	304	0	304	0	0	0	10	0	10
5.3	South41	RM	2184B	2464			2464	3589	1331	4920	142	71	0	71	50	334
7	NFMill	NFMill	2185	58575	0	0	0	852	0	852	79	0	0	0	150	229
6	North41	North41	2186	22401	0	0	0	2191	0	2191	218	0	436	50	0	704
6	North41	North41	2187	20907	0	0	0	1057	0	1057	832	50	475	20	0	1377
7	NFMill	NFMill	2188	3817	0	0	0	769	685	1454	812	0	0	59	25	896
7	NFMill	NFMill	2189	28968	0	0	0	878	333	1211	396	50	264	20	375	1105
7	NFMill	NFMill	2190	1337	0	0	0	244	0	244	0	0	1808	455	0	2263
8	East	East	2191	295796	0	0	0	447	0	447	0	0	0	0	0	0
8	East	East	2192	126639	0	0	0	193	0	193	0	0	0	0	0	0
6	North41	North41	2193	24899	0	0	0	3992	1000	4992	2020	50	792	416	222	3500
6	North41	North41	2194	5439	0	0	0	1795	407	2202	2277	0	50	50	88	2465
6	North41	North41	2195	5686	0	0	0	1297	259	1556	79	0	0	50	0	129
6	North41	North41	2196	8536	0	0	0	626	0	626	1030	0	0	20	0	1050
6	North41	North41	2197	15200	0	0	0	1117	629	1746	1920	0	0	20	82	2022
6	North41	North41	2198	8629	0	0	0	1653	410	2063	376	0	0	300	338	1014
6	North41	North41	2199	8109	0	0	0	506	0	506	79	0	0	30	0	109
6	North41	North41	2200	5367	0	0	0	1836	648	2484	931	100	0	50	0	1081
6	North41	North41	2201	2301	0	0	0	1381	1573	2954	2455	350	200	50	300	3355
6	North41	North41	2202	828	0	0	0	1657	187	1844	119	317	50	50	12	548
6	North41	North41	2203	3486	0	0	0	718	0	718	0	0	0	20	0	20
7	NFMill	NFMill	2204	813	0	0	0	174	185	359	79	0	0	0	0	79
2.1	ChowFair	Chowinc	2205	416	0	416	0	34	0	34	0	0	300	100	0	400
2.1	ChowFair	Chowinc	2206	115	0	115	0	200	100	300	0	150	36	0	0	186
2.1	ChowFair	Chowinc	2207	376	0	376	0	1000	350	1350	0	200	27	0	100	327
2.1	ChowFair	Chowinc	2208	88	0	88	0	12	22	34	325	58	0	0	0	383
2.2	ChowFair	Chowun	2209A	175	0	0	0	89	0	89	0	0	0	20	0	20
2.1	ChowFair	Chowinc	2209B	150		150		8	250	258	47		540	27		614
2.1	ChowFair	Chowinc	2210	178	0	178	0	500	200	700	46	0	0	14	250	310
2.1	ChowFair	Chowinc	2211	110	0	110	0	250	150	400	47	0	100	0	125	272
2.2	ChowFair	Chowun	2212	320	0	150	0	0	0	0	0	0	0	20	0	20

**MADERA COUNTY DRAFT GENERAL PLAN
BUILDOUT BY TAZ**

NO.	SUBAREA	SUBAREA2	TAZ	SIZEACRE	MADACRES	CHOWACRES	NGAACRES	BOSFDUS	BOMFDUS	BOTOTDUS	BORETEMP	BOOFCEMP	BOINDEMP	BOOTHEMP	BOGOVEDEMP	BOTOTEMP
2.1	ChowFair	Chowinc	2213	668	0	668	0	21	0	21	0	0	2212	80	0	2292
4	Raymond	Raymond	2214	39512	0	0	0	576	296	872	238	0	7	10	50	305
3.3	Madun	Madnorth	2215	1587	0	0	0	645	0	489	0	0	0	590	75	665
3.1	Madcity	OtherGP	2216	260	0	0	0	0	0	0	0	0	0	0	0	0
1	West	West	2217	2580	0	0	0	38	0	38	0	0	0	469	0	469
2.2	ChowFair	Chowun	2218	3393				39	0	39				20		20
3.3	Madun	Madnorth	2219	243	0	0	0	0	0	0	0	0	2983	259	0	3242
6	North41	North41	2220	2278	0	0	0	1782	1961	3743	6138	400	541	614	0	7693
7	NFMill	NFMill	2221	13406	0	0	0	210	0	210	0	0	0	0	0	0
1	West	West	2222	16195	0	0	0	624	0	624	0	0	0	0	0	0
1	West	West	2223	23816	0	0	0	298	0	298	0	0	0	17	0	17

DESCRIPTION OF FIELD NAMES

SUBNO	Subarea no
SUBAREA	Geographic Analysis Area. The county is divided into eight areas for purposes of our analysis.
SUBAREA2	Further refinement of the analysis areas (e.g., RM = Rio Mesa, STCC = State Center Community College, Chowinc = Incorporated Chowchilla)
SIZEACRE	Size in acres of TAZ
MADACRES	Acreage within incorporated city of Madera
CHOWACRES	Acreage within incorporated Chowchilla
NGAACRES	Acreage within designated "New Growth Areas"
POP90	1990 Population
TOTDUS90	Total 1990 Dwelling units
SFDUS90	1990 Single Family Dwelling Units
MFDUS90	1990 Multi-Family Dwelling Units
RETEMP90	1990 Retail Employees
OFCEMP90	1990 Office Employees
INDEMP90	1990 Industrial Employees
OTHEMP90	1990 "Other" Employees
GOVEMP90	1990 Government Employees
EDEMP90	1990 Education Employees
TOTEMP90	1990 Total Employment
SFDU2010	2010 Single Family Dwelling Units
MFDU2010	2010 Multi-Family Dwelling Units
TOTDU2010	2010 Total Dwelling Units
RETEMP2010	2010 Retail Employees
OFCEMP2010	2010 Office Employees
INDEMP2010	2010 Industrial Employees
OTHEMP2010	2010 "Other" Employees (includes agricultural labor, highway commercial, wholesale commercial, home employment)
GOVEMP2010	2010 Government Employees (includes known future institutional employees (e.g., Valley Children's Hospital, Prison expansion, plus some minor increase at existing institutions)
EDEMP2010	2010 Education Employees (includes known future educational employees (e.g., State Center Community College, planned schools, plus some minor increase at existing schools)
TOTEMP2010	2010 Total Employees
BOSFDUS	Total Single Family Dwelling Units at buildout
BOMFDUS	Total Multi-Family Dwelling Units at buildout
BOTOTDUS	Total Dwelling Units at buildout
BORETEMP	Total Retail Employees at buildout
BOOFCEMP	Total Office Employees at buildout
BOINDEMP	Total Industrial Employees at buildout
BOOTHEMP	Total Other Employees at buildout
BOGOVEDEMP	Total Government and Education Employees at buildout

APPENDIX D

AIR QUALITY METHODOLOGY AND ASSUMPTIONS

CALINE-4 MODEL

The CALINE-4 model is a fourth-generation line source air quality model that is based on the Gaussian diffusion equation and employs a mixing zone concept to characterize pollutant dispersion over the roadway. Given source strength, meteorology, site geometry and site characteristics, the model predicts pollutant concentrations for receptors located within 150 meters of the roadway. The CALINE-4 model allows roadways to be broken into multiple links that can vary in traffic volume, emission rates, height, width, etc..

A screening-level form of the CALINE-4 program was used to predict concentrations.¹ Normalized concentrations for each roadway size (2 lanes, 4 lanes, etc.) were adjusted for the two-way traffic volume and emission factor. Calculations were made for a distance of 25 feet from the roadway curbline.

Emission factors were derived from the California Air Resources Board EMFAC-7F computer model. Emission rates (which are a function of average speed) were determined based on an average speed of 50 MPH on freeways and 25 MPH on surface streets.

The screening model calculates the local contribution of nearby roads to the total concentration. The other contribution is the background level attributed to more distant traffic. Since carbon monoxide concentrations are not monitored in Madera County, data from the most applicable site outside the county (Sierra Skypark site in Fresno County) was used. The maximum 1-hour concentration measured over a 3-year period 1990-1992 was taken as the background level (6 PPM).

To calculate 8-hour concentrations from the 1-hour output of the CALINE-4 model, a persistence factor of 0.068 was employed. This is the highest ratio of annual second-highest 8-hour to 1-hour measured concentrations at the Sierra Skypark monitoring site during the 3-year period of 1990-1992.

URBEMIS-3 Model

Estimates of regional emissions generated by project traffic were made using a program called URBEMIS-3. URBEMIS-3 is a program that estimates the emissions that would result from various land use development projects. Land uses can include residential uses such as single-family dwelling units, apartments and condominiums, and nonresidential uses such as shopping centers, office buildings, and industrial parks. URBEMIS-3 contains default values for much of the information needed to calculate emissions. However, project-specific, user-supplied information can also be used when it is available.

The following is a description of the parameters that were used in the regional air quality analysis of the proposed project:

¹ Bay Area Air Quality Management District, *Air Quality and Urban Development-Guidelines*, November 1985, Revised 1991.

Ambient Temperature: 75 degrees F.
Year of Analysis: 2010
Average Speed: 35 miles per hour for all trip types.

Two separate URBEMIS-3 runs were made. One run accounted for the incremental increase in regional trips from new land uses within the City of Madera. Default trip lengths for the Fresno-Kern region were assumed for these urban land uses.

The second URBEMIS-3 run accounted for the incremental increase in regional trips from new land uses outside the City of Madera. These trips were assumed to be rural in nature. Default trip lengths for rural land uses were assumed for these trips.

APPENDIX E

PERSONS CONSULTED AND BIBLIOGRAPHY

PERSONS CONSULTED

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APPENDIX F

REPORT PREPARATION

REPORT PREPARATION	
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